OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for RC214740

Cardiac Troponin I (TNNI3) (NM_000363) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Cardiac Troponin I (TNNI3) (NM_000363) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Cardiac Troponin I
Synonyms:	CMD1FF; CMD2A; CMH7; cTnI; RCM1; TNNC1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RC214740 representing NM_000363
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCGGATGGGAGCAGCGATGCGGCTAGGGAACCTCGCCCTGCACCAGCCCCAATCAGACGCCGCTCCT
CCAACTACCGCGCTTATGCCACGGAGCCGCACGCCAAGAAAAAATCTAAGATCTCCGCCTCGAGAAAATT
GCAGCTGAAGACTCTGCTGCTGCAGATTGCAAAGCAAGAGCTGGAGCGAGAGGCGGAGGAGCGGCGCGGA
GAGAAGGGGCGCGCTCTGAGCACCCGCTGCCAGCCACTGGAGTTGGCCGGGCTGGGCTTCGCGGAGCTGC
AGGACTTGTGCCGACAGCTCCACGCCCGTGTGGACAAGGTGGATGAAGAGAGATACGACATAGAGGCAAA
AGTCACCAAGAACATCACGGAGATTGCAGATCTGACTCAGAAGATCTTTGACCTTCGAGGCAAGTTTAAG
CGGCCCACCCTGCGGAGAGTGAGGATCTCTGCAGATGCCATGATGCAGGCGCTGCTGGGGGCCCGGGCTA
AGGAGTCCCTGGACCTGCGGGCCCACCTCAAGCAGGTGAAGAAGGAGGACACCGAGAAGGAAAACCGGGA
GGTGGGAGACTGGCGCAAGAACATCGATGCACTGAGTGGAATGGAGGGCCGCAAGAAAAAGTTTGAGAGC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC214740 representing NM_000363
Red=Cloning site Green=Tags(s)

MADGSSDAAREPRPAPAPIRRRSSNYRAYATEPHAKKKSKISASRKLQLKTLLLQIAKQELEREAEERRG
EKGRALSTRCQPLELAGLGFAELQDLCRQLHARVDKVDEERYDIEAKVTKNITEIADLTQKIFDLRGKFK
RPTLRRVRISADAMMQALLGARAKESLDLRAHLKQVKKEDTEKENREVGDWRKNIDALSGMEGRKKKFES

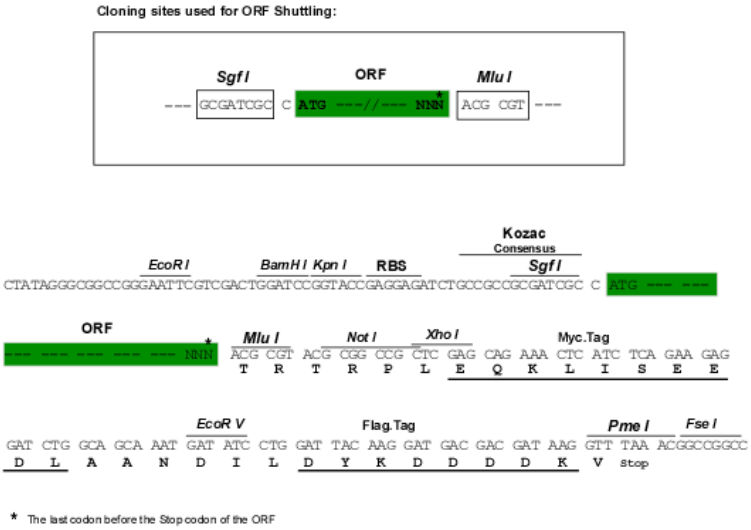
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

View online »

Chromatograms: https://cdn.origene.com/chromatograms/mg3344_g09.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_000363

ORF Size: 630 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.

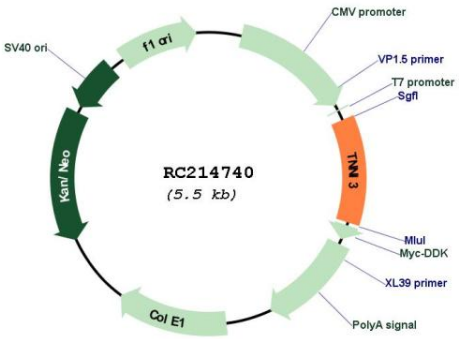
The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in 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.

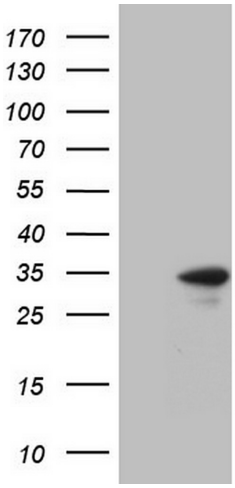
Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_000363.5
RefSeq Size:	2073 bp
RefSeq ORF:	633 bp
Locus ID:	7137
UniProt ID:	P19429
Cytogenetics:	19q13.42
Protein Families:	Druggable Genome, ES Cell Differentiation/IPS, Stem cell - Pluripotency
Protein Pathways:	Cardiac muscle contraction, Dilated cardiomyopathy, Hypertrophic cardiomyopathy (HCM)
MW:	23.8 kDa
Gene Summary:	Troponin I (TnI), along with troponin T (TnT) and troponin C (TnC), is one of 3 subunits that form the troponin complex of the thin filaments of striated muscle. TnI is the inhibitory subunit; blocking actin-myosin interactions and thereby mediating striated muscle relaxation. The TnI subfamily contains three genes: TnI-skeletal-fast-twitch, TnI-skeletal-slow-twitch, and TnI-cardiac. This gene encodes the TnI-cardiac protein and is exclusively expressed in cardiac muscle tissues. Mutations in this gene cause familial hypertrophic cardiomyopathy type 7 (CMH7) and familial restrictive cardiomyopathy (RCM). Troponin I is useful in making a diagnosis of heart failure, and of ischemic heart disease. An elevated level of troponin is also now used as indicator of acute myocardial injury in patients hospitalized with moderate/severe Coronavirus Disease 2019 (COVID-19). Such elevation has also been associated with higher risk of mortality in cardiovascular disease patients hospitalized due to COVID-19. [provided by RefSeq, Aug 2020]

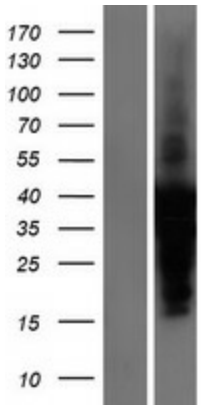
Product images:



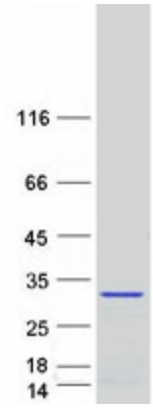
Circular map for RC214740



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY TNNI3 (Cat# RC214740, 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-TNNI3(Cat# [TA807911]). Positive lysates [LY424766] (100ug) and [LC424766] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY424766]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC214740 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified TNNI3 protein (Cat# [TP314740]). The protein was produced from HEK293T cells transfected with TNNI3 cDNA clone (Cat# RC214740) using MegaTran 2.0 (Cat# [TT210002]).