

Product datasheet for **RC223893**

TNNT3 (NM_001042782) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	TNNT3 (NM_001042782) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	TNNT3
Synonyms:	beta-TnTF; DA2B2; TNTF
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC223893 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGTCTGACGAGGAAGTTGAACAGGTGGAGGAGCAGTACGAAGAAGAAGAGGAAGCCAGGAGGAAGAGG
AAGTTCAAGAAGAGGAGAAAACCGAGACCCAACTCACTGCTCCTAAGATCCAGAAAGGGAGAAAGTGA
CTTCGATGACATCCAGAAGAAGCGTCAGAACAAAGACCTAATGGAGCTCCAGGCCCTCATCGACAGCCAC
TTTGAAGCCCGGAAGAAGGAGGAGGAGGAGCTGGTCGCTCTCAAAGAGAGAATCGAGAAGCGCCGTGCAG
AGAGAGCGGAGCAGCAGAGGATTCGTGCAGAGAAGGAGAGGGAGCGCCAGAACAGACTGGCGGAGGAAAA
GGCCAGAAGGGAGGAGGAGGATGCCAAGAGGAGGGCAGAGGACGACCTGAAGAAGAAGAAAGCTCTGTCT
TCCATGGGAGCCAACTACAGCAGCTACCTGGCCAAGGCTGACCAGAAGAGAGGCAAGAAGCAGACAGCCC
GGGAAATGAAGAAGAAGATTCTGGCTGAGAGACGCAAGCCGCTCAACATCGATCACCTTGGTGAAGACAA
ACTGAGGGACAAGGCCAAGGAGCTCTGGGAGACCCTGCACCAGCTGGAGATTGACAAGTTGAGTTTGGG
GAGAAGCTGAAACGCCAGAAATATGACATCACCACGCTCAGGAGCCGATTGACCAGGCCAGAAGCACA
GCAAGAAGGCTGGGACCCAGCCAAGGGCAAAGTCGGCGGGCGCTGGAAG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC223893 protein sequence
 Red=Cloning site Green=Tags(s)

MSDEEVEQVEEQYEEEEEAQEEEEVQEEKPRPKLTAPKIPERGEKVDFFDIQKKRQNKDLMELQALIDSH
 FEARKKEEEELVALKERIEKRAERAQQRIRAEKERERQNLAEKARREEDAKRRAEDDLKKKALS
 SMGANYSYLAKADQKRGKKQTAREMKKKILAERRKPLNIDHLGEDKLRDKAKELWETLHQLKIDKFEFG
 EKLKRQKYDITTLRSRIDQAQKHSKKAGTPAKGKVGGRWK

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6464_a07.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_001042782

ORF Size: 750 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_001042782.3](#)

RefSeq Size: 1193 bp

RefSeq ORF: 753 bp

Locus ID: 7140

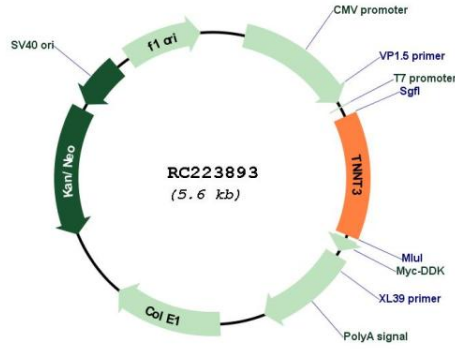
UniProt ID: [P45378](#)

Cytogenetics: 11p15.5

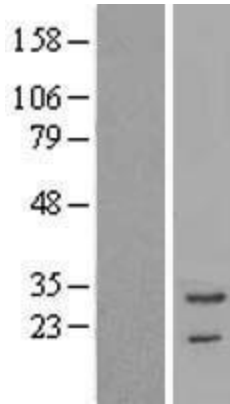
MW: 29.7 kDa

Gene Summary: The binding of Ca(2+) to the trimeric troponin complex initiates the process of muscle contraction. Increased Ca(2+) concentrations produce a conformational change in the troponin complex that is transmitted to tropomyosin dimers situated along actin filaments. The altered conformation permits increased interaction between a myosin head and an actin filament which, ultimately, produces a muscle contraction. The troponin complex has protein subunits C, I, and T. Subunit C binds Ca(2+) and subunit I binds to actin and inhibits actin-myosin interaction. Subunit T binds the troponin complex to the tropomyosin complex and is also required for Ca(2+)-mediated activation of actomyosin ATPase activity. There are 3 different troponin T genes that encode tissue-specific isoforms of subunit T for fast skeletal-, slow skeletal-, and cardiac-muscle. This gene encodes fast skeletal troponin T protein; also known as troponin T type 3. Alternative splicing results in multiple transcript variants encoding additional distinct troponin T type 3 isoforms. A developmentally regulated switch between fetal/neonatal and adult troponin T type 3 isoforms occurs. Additional splice variants have been described but their biological validity has not been established. Mutations in this gene may cause distal arthrogyrosis multiplex congenita type 2B (DA2B). [provided by RefSeq, Oct 2009]

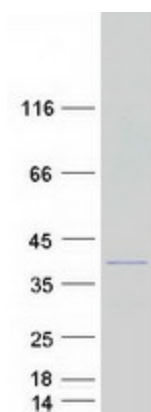
Product images:



Circular map for RC223893



Western blot validation of overexpression lysate (Cat# [LY420811]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC223893 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified TNNT3 protein (Cat# [TP323893]). The protein was produced from HEK293T cells transfected with TNNT3 cDNA clone (Cat# RC223893) using MegaTran 2.0 (Cat# [TT210002]).