APD233Hu01 100μg
Active Troponin T Type 3, Fast Skeletal (TNNT3)
Organism Species: *Homo sapiens* (Human)
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Prokaryotic expression.
Host: *E. coli*
Residues: Arg147~Lys269
Tags: N-terminal His-tag
Purity: >90%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 0.01% Sarcosyl, 5%Trehalose .
Original Concentration: 200μg/mL
Applications: Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 10.9
Predicted Molecular Mass: 15.6kDa
Accurate Molecular Mass: 16kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.
Store at 2-8ºC for one month.
Aliquot and store at -80ºC for 12 months.

Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37ºC for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

RAED
DLKKKKALSS MGANYSSYLA KADQKRGKKQ TAREMKKKIL AERRKPLNID
HLGEDKLRDK AKELWETLHQ LEIDKFEFGE KLKRQKYDIT TLRSRIDQAQ
KHSKKAGTPA KGKVGGRWK

[ACTIVITY]

Troponin T Type 3, Fast Skeletal (TNNT3) is a fast - twitch skeletal muscle - specific isoform of the troponin T (TnT) protein, which is part of the troponin complex that governs calcium - dependent muscle contraction. TNNT3 has three domains: the N - terminal region is responsible for binding tropomyosin (TPM3), the central region interacts with TnI and TnC, and the C - terminal region is crucial for actin binding. Through anchoring the troponin complex to actin filaments and interacting with TPM3, TNNT3 effectively regulates calcium - mediated muscle contraction.Thus a functional ELISA assay was conducted to detect the interaction of recombinant human TNNT3 and recombinant human TPM3. Briefly, TNNT3 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to TPM3-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-TNNT3 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 μL stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant human TNNT3 and recombinant human TPM3 was shown in Figure 1, the EC50 for this effect is 0.009ug/mL.

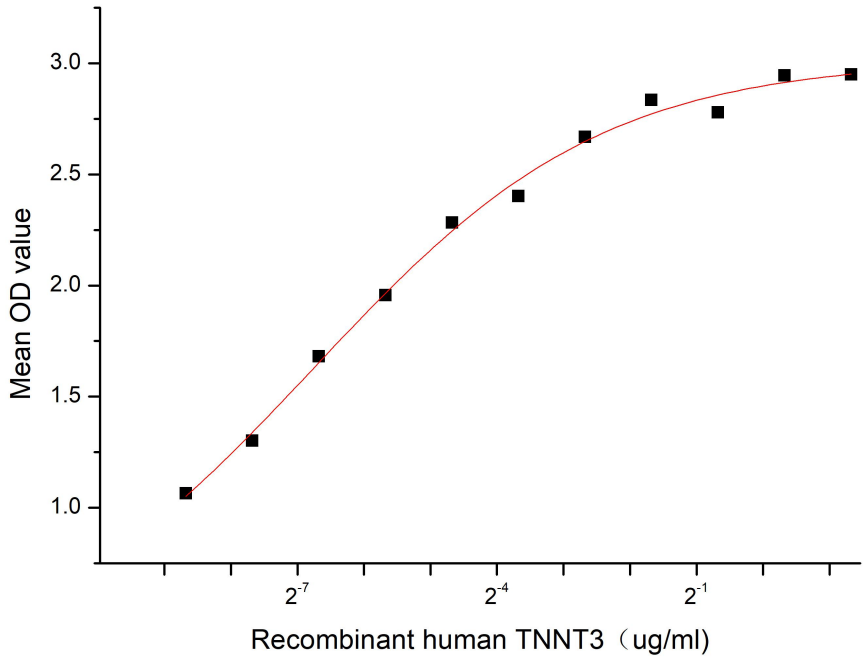

Figure 1. The binding activity of recombinant human TNNT3 and recombinant human TPM3

[IDENTIFICATION]

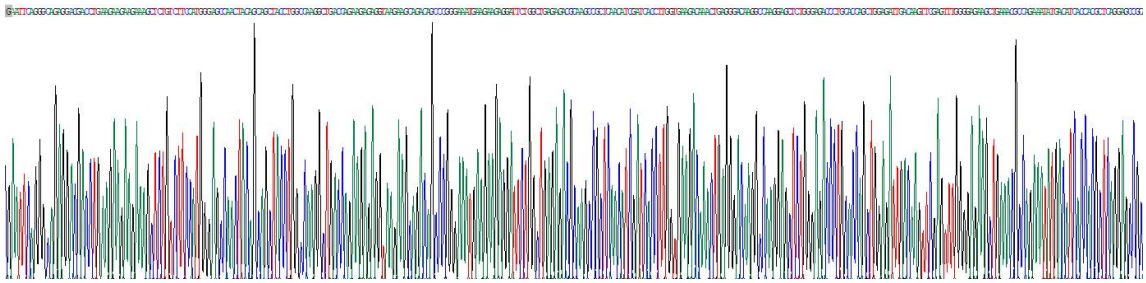

Figure 2. Gene Sequencing (extract)

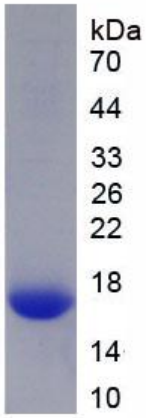

Figure 3. SDS-PAGE

Sample: Active recombinant TNNT3, Human

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.