

APD231Hu01 100µg
Active Troponin T Type 1, Slow Skeletal (TNNT1)
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: Met1~Gly259

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: 5.7

Predicted Molecular Mass: 34.2kDa

Accurate Molecular Mass: 40kDa 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 2-8°C for one month.

Aliquot and store at -80°C 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 37°C 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**]

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MSDTEEQEYE EEQPAAAAE EEEEEPEEPE PVAEPEEERP KPSRPVVPPL  
IPPKIPEGER VDFDDIHRKR MEKDLLELQT LIDVHFEQRK KEEELVALK  
ERIERRRSER AEQQRFRTEK EREKQAKLAE EKMRKEEEEA KKRAEDDAKK  
KKVLSNMGAH FGGYLVKAEQ KRGKRQTGRE MKVRILSERK KPLDIDYMGE  
EQLREKAQEL SDWIHQLESE KFDLMAKLLKQ QKYEINVLYN RISHAQKFRK  
GAGKGRVGG
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[**ACTIVITY**]

Troponin T Type 1, Slow Skeletal (TNNT1) is a protein predominantly expressed in slow-twitch skeletal muscles. It is a crucial component of the troponin complex, which plays a vital role in the regulation of muscle contraction. TNNT1 helps to anchor the troponin complex to tropomyosin on the thin filaments of muscle cells. Mutations in the TNNT1 gene can lead to various myopathies, disrupting normal muscle function. It has a specific structure and function that enables it to interact precisely with other troponin subunits. Besides, it has been identified that interaction between TNNT1 and TNNC2 contributes to allowing TNNC2's calcium-induced change to be relayed, triggering muscle contraction regulation. Thus, a functional binding ELISA assay was used to detect the biological activity of TNNT1. Briefly, TNNC2 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to TNNT1-coated microtiter wells and incubated for 1h at 37°C. Wells were washed with PBST and incubated for 1h with anti-TNNC2 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37°C, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally, add 50 μ L stop solution to the

wells and read at 450/630nm immediately. Measured by its binding ability in a functional ELISA. When Recombinant TNNT1 is Immobilized at 2 ug/mL(100 uL/well), the concentration of TNNC2 that produces 50% optimal binding response is found to be approximately 0.00597 ug/mL.

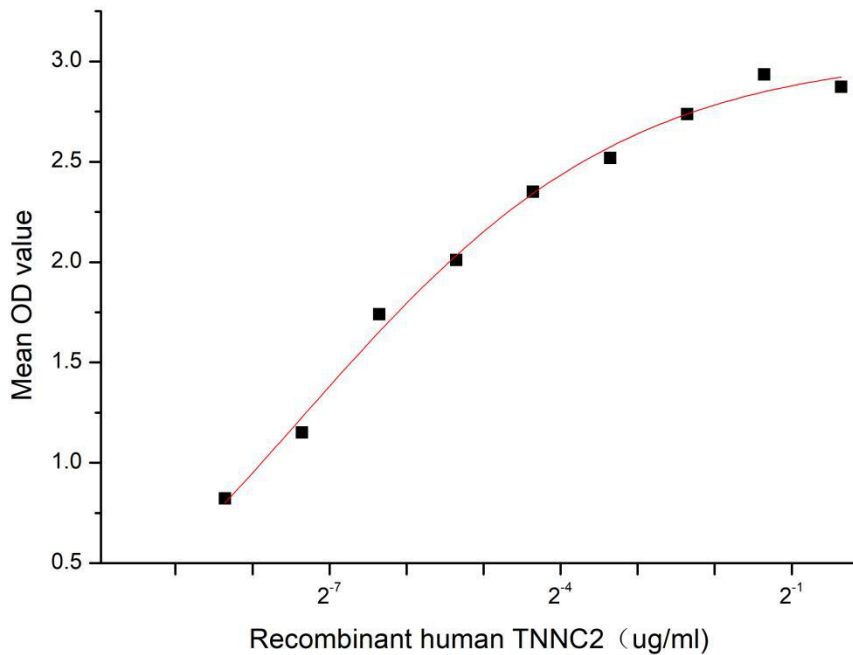


Figure 1. The binding activity of recombinant human TNNC2 and recombinant human TNNT1

[**IDENTIFICATION**]

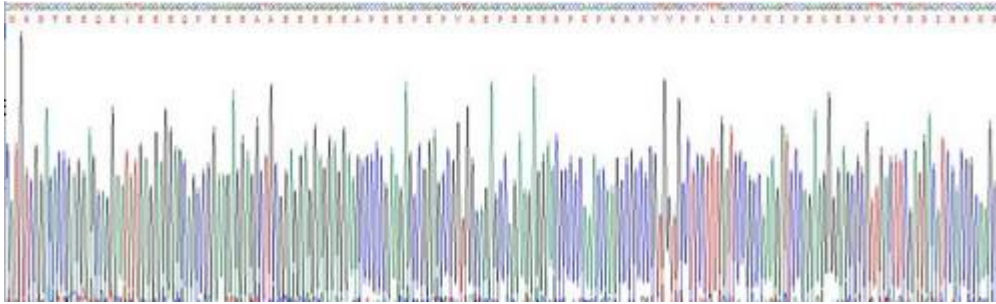


Figure 2. Gene Sequencing (extract)

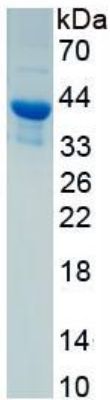


Figure 3. SDS-PAGE

Sample: Active recombinant TNNT1, 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.