APD228Hu01 100μg
Active Troponin C Type 2, Fast (TNNC2)
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: Thr2~Gln160
Tags: N-terminal His and GST 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: 4.7
Predicted Molecular Mass: 47.9kDa
Accurate Molecular Mass: 48kDa 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]

TDQQAEARS YLSEEMIAEF KAAFDMFDAD GGGDISVKEL GTVMRMLGQT
PTKEELDAII EEVDEDGSGT IDFEEFLVMM VRQMKEDAKG KSEEELAECF
RIFDRNADGY IDPEELAEIF RASGEHVTDE EIESLMKDGD KNNDGRIDFD
EFLKMMEGVQ

[ACTIVITY]

Troponin C Type 2, Fast (TNNC2) is a protein predominantly expressed in fast - twitch skeletal muscles. It is a crucial component of the troponin complex. TNNC2 binds calcium ions, which initiates a conformational change in the troponin - tropomyosin complex. This change allows myosin to interact with actin, enabling muscle contraction. Mutations in the TNNC2 gene can lead to various skeletal muscle disorders affecting muscle function.It has been reported that the binding of TNNC2 and TNNT3 plays a key role in the process of rapid skeletal muscle contraction.Thus a functional ELISA assay was conducted to detect the interaction of recombinant human TNNC2 and recombinant human TNNT3.

Briefly, TNNC2 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to TNNT3-coated microtiter wells and incubated for 1h at 37℃. 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℃, 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 TNNC2 and recombinant human TNNT3 was shown in Figure 1, the EC50 for this effect is 0.003ug/mL.

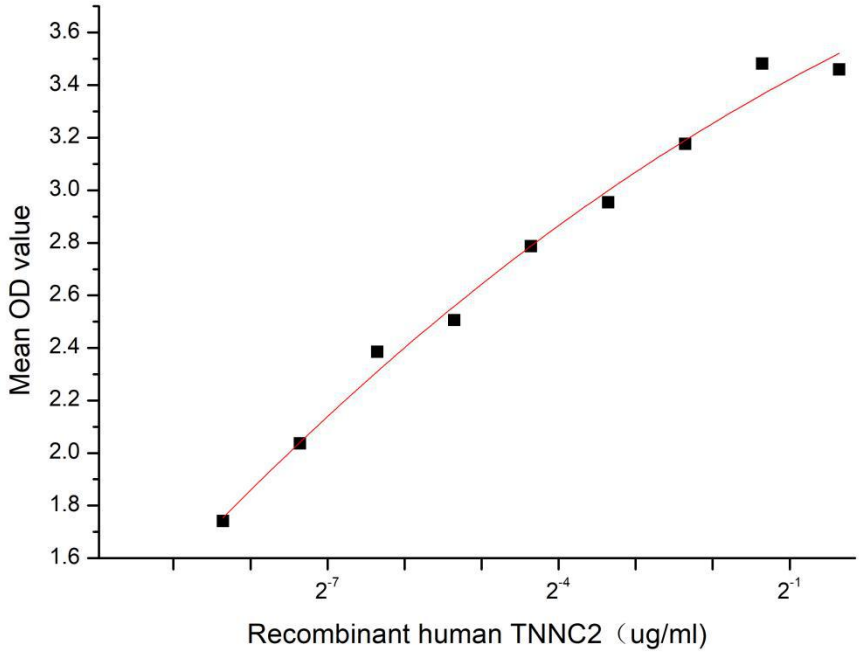

Figure 1. The binding activity of recombinant human TNNC2 and human TNNT3

[IDENTIFICATION]

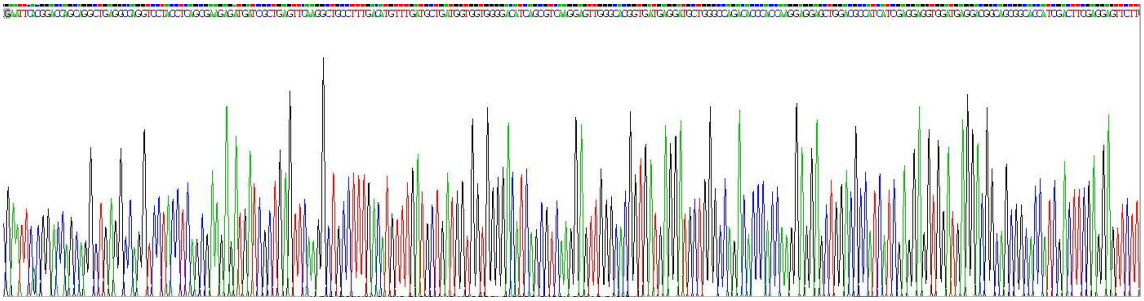

Figure 2. Gene Sequencing (extract)

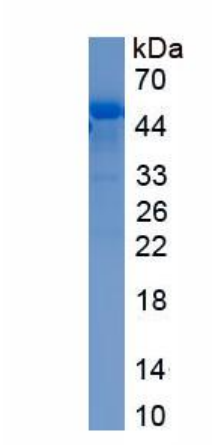

Figure 3. SDS-PAGE

Sample: Active recombinant TNNC2, 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.