Anti-Tropomyosin 2 Antibody [PSH02-63]

HA721841

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P, IF-Tissue, IF-Cell
Molecular Wt:	Predicted band size: 33 kDa
Clone number:	PSH02-63

Description: TPM2, also named as TMSB, belongs to the tropomyosin family. It binds to actin filaments in muscle and non-muscle cells. TPM2 plays a central role, in association with the troponin complex, in the calcium dependent regulation of vertebrate striated muscle contraction. In non-piamuscle cells, TPM2 is implicated in stabilizing cytoskeleton actin filaments. Defects in TPM2 are the cause of nemaline myopathy type 4 (NEM4) and distal arthrogryposis type 1 (DA1).

Immunogen: Synthetic peptide within human Tropomyosin 2 aa 200-250 / 284.

Positive control: U-2 OS cell lysate, Saos-2 cell lysate, NIH/3T3 cell lysate, C2C12 cell lysate, mouse skeletal muscle tissue lysate, rat skeletal muscle tissue lysate, Saos-2, human heart tissue, mouse smooth muscle tissue lysate, human striated muscle tissue, mouse skeletal muscle tissue.

Subcellular location: Cytoplasm, cytoskeleton.

Database links: SwissProt: P07951 Human | P58774 Mouse | P58775 Rat

Recommended Dilutions:

WB	1:1,000-1:2,000
IHC-P	1:1,000
IF-Tissue	1:200
IF-Cell	1:100

Storage Buffer: 1*TBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

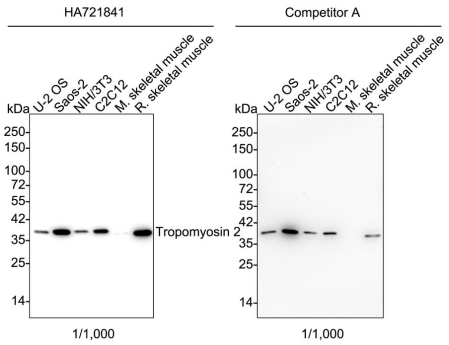

Fig1: Western blot analysis of Tropomyosin 2 on different lysates with Rabbit anti-Tropomyosin 2 antibody (HA721841) at 1/1,000 dilution and competitor's antibody at 1/1,000 dilution.

Lane 1: U-2 OS cell lysate
Lane 2: Saos-2 cell lysate
Lane 3: NIH/3T3 cell lysate
Lane 4: C2C12 cell lysate
Lane 5: Mouse skeletal muscle tissue lysate
Lane 6: Rat skeletal muscle tissue lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 33 kDa
Observed band size: 37 kDa

Exposure time: 3 minutes; ECL: K1801;
4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721841) at 1/1,000 dilution and competitor's antibody at 1/1,000 dilution were used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

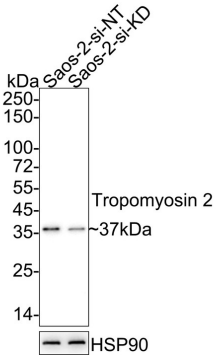

Fig2: Western blot analysis of Tropomyosin 2 on different lysates with Rabbit anti-Tropomyosin 2 antibody (HA721841) at 1/2,000 dilution.

Lane 1: Saos-2-si NT cell lysate
Lane 2: Saos-2-si Tropomyosin 2 cell lysate

Lysates/proteins at 10 µg/Lane.

Predicted band size: 33 kDa
Observed band size: 37 kDa

Exposure time: 2 minutes 15 seconds; ECL: K1801;
4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721841) at 1/2,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/100,000 dilution was used for 1 hour at room temperature.

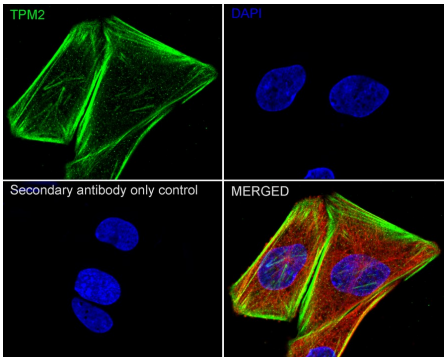

Fig3: Immunocytochemistry analysis of Saos-2 cells labeling Tropomyosin 2 with Rabbit anti-Tropomyosin 2 antibody (HA721841) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-Tropomyosin 2 antibody (HA721841) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

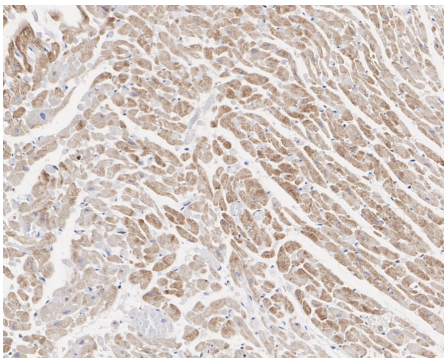

Fig4: Immunohistochemical analysis of paraffin-embedded human heart tissue with Rabbit anti-Tropomyosin 2 antibody (HA721841) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721841) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

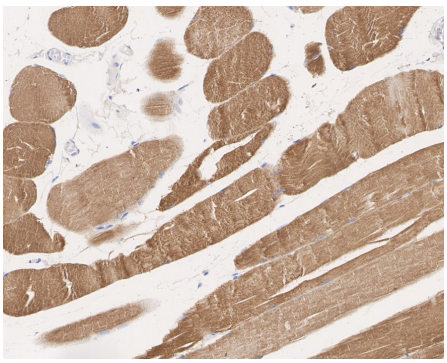

Fig5: Immunohistochemical analysis of paraffin-embedded human striated muscle tissue with Rabbit anti-Tropomyosin 2 antibody (HA721841) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721841) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

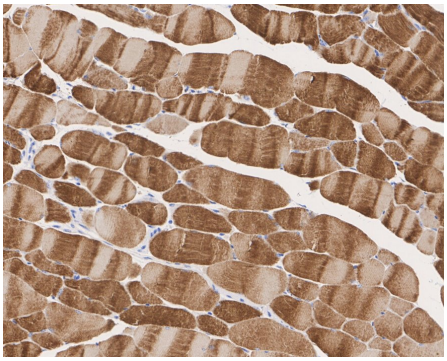

Fig6: Immunohistochemical analysis of paraffin-embedded mouse skeletal muscle tissue with Rabbit anti-Tropomyosin 2 antibody (HA721841) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721841) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

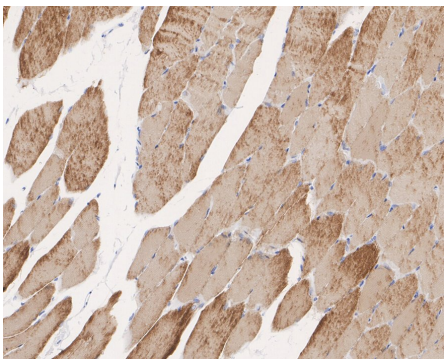

Fig7: Immunohistochemical analysis of paraffin-embeddedrat rat skeletal muscle tissue with Rabbit anti-Tropomyosin 2 antibody (HA721841) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721841) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

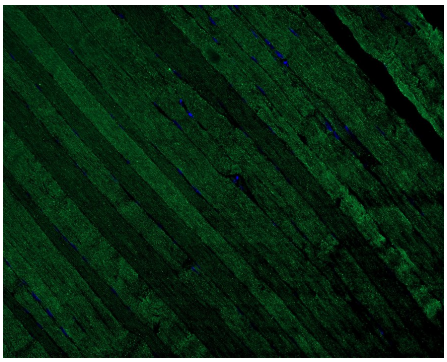

Fig8: Immunofluorescence analysis of paraffin-embedded human striated muscle tissue labeling Tropomyosin 2 with Rabbit anti-Tropomyosin 2 antibody (HA721841) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (HA721841, green) at 1/200 dilution overnight at 4 ℃, washed with PBS. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. Nuclei were counterstained with DAPI (blue).

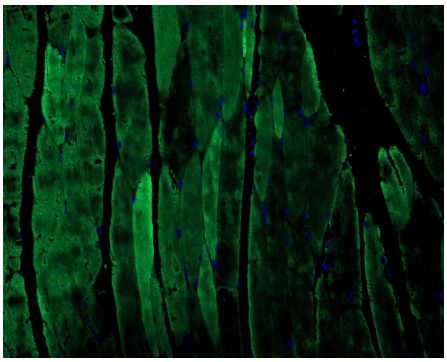

Fig9: Immunofluorescence analysis of paraffin-embedded mouse skeletal muscle tissue labeling Tropomyosin 2 with Rabbit anti-Tropomyosin 2 antibody (HA721841) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (HA721841, green) at 1/200 dilution overnight at 4 ℃, washed with PBS. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. Nuclei were counterstained with DAPI (blue).

Background References

1. Duan P, Cui J, Li H, Yuan L. Tropomyosin 2 exerts anti-tumor effects in lung adenocarcinoma and is a novel prognostic biomarker. Histol Histopathol. 2023 Jun;38(6):669-680. doi: 10.14670/HH-18-514. Epub 2022 Jun 14.
2. Jiang T, Wang G, Liu Y, Feng L, Wang M, Liu J, Chen Y, Ouyang L. Development of small-molecule tropomyosin receptor kinase (TRK) inhibitors for NTRK fusion cancers. Acta Pharm Sin B. 2021 Feb;11(2):355-372. doi: 10.1016/j.apsb.2020.05.004. Epub 2020 May 23. Erratum in: Acta Pharm Sin B. 2022 Jun;12(6):2963-2964.