

Tropomyosin (FL-284): sc-28543

BACKGROUND

Tropomyosins are a group of structural proteins. Tropomyosins are present in virtually all eukaryotic cells (both muscle and nonmuscle), where they bind Actin filaments and function to modulate Actin-Myosin interaction and stabilize Actin filament structure. Tropomyosin α is encoded by the TPM1 gene, which maps to human chromosome 15q22.2 and undergoes alternative splicing to generate at least four isoforms including skeletal muscle (isoform 1), smooth muscle (isoform 2), fibroblast/TM3 (isoform 3) and isoform 4. Tropomyosin β is encoded by the TPM2 gene, which maps to human chromosome 9p13.3 and undergoes alternative splicing to generate three isoforms including skeletal muscle (isoform 1), nonmuscle/fibroblast TM36/epithelial TMe1 (isoform 2) and nonmuscle (isoform 3). Troponin I binds Tropomyosin at a specific region and the association of Tropomyosin-Troponin with Actin filaments may increase the rigidity of Actin filaments. Tropomyosin also interacts with caldesmon to regulate smooth muscle contraction.

SOURCE

Tropomyosin (FL-284) is a rabbit polyclonal antibody raised against amino acids 1-284 representing full length Tropomyosin α of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Tropomyosin (FL-284) is recommended for detection of Tropomyosin α isoforms 1-4, Tropomyosin β isoforms 1-3, Tropomyosin γ and Tropomyosin 4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Tropomyosin (FL-284) is also recommended for detection of Tropomyosin α isoforms 1-4, Tropomyosin β isoforms 1-3, Tropomyosin γ and Tropomyosin 4 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Tropomyosin siRNA (h): sc-36734, Tropomyosin siRNA (m): sc-36735, Tropomyosin shRNA Plasmid (h): sc-36734-SH, Tropomyosin shRNA Plasmid (m): sc-36735-SH, Tropomyosin shRNA (h) Lentiviral Particles: sc-36734-V and Tropomyosin shRNA (m) Lentiviral Particles: sc-36735-V.

Molecular Weight of Tropomyosin α : 33 kDa.

Molecular Weight of Tropomyosin β : 33 kDa.

Molecular Weight of Tropomyosin γ : 33 kDa.

Molecular Weight of Tropomyosin 4: 29 kDa.

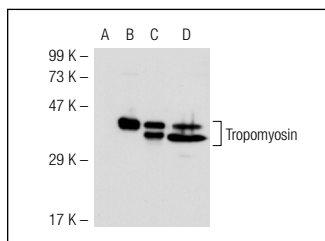
Molecular Weight (observed) of Tropomyosin: 31-47 kDa.

Positive Controls: Sol8 cell lysate: sc-2249, Tropomyosin β (m): 293T Lysate: sc-126153 or CCD-1064Sk cell lysate: sc-2263.

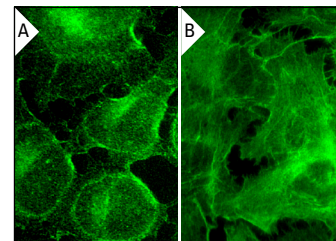
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Tropomyosin (FL-284): sc-28543. Western blot analysis of Tropomyosin expression in non-transfected 293T: sc-117752 (A), mouse Tropomyosin transfected 293T: sc-126153 (B), CCD-1064Sh (C) and Sol8 (D) whole cell lysates.



Tropomyosin (FL-284): sc-28543. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and cytoskeletal localization (A). Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoskeletal localization (B).

SELECT PRODUCT CITATIONS

- Hauck, L., et al. 2007. Critical role for FOXO3a-dependent regulation of p21CIP1/WAF1 in response to statin signaling in cardiac myocytes. *Circ. Res.* 100: 50-60.
- Kim, S., et al. 2008. A Proteomic approach for protein-profiling the oncogenic ras induced transformation (H-, K-, and N-Ras) in NIH/3T3 mouse embryonic fibroblasts. *Proteomics* 8: 3082-3093.
- Fatma, N., et al. 2011. Deficiency of Prdx6 in lens epithelial cells induces ER stress response-mediated impaired homeostasis and apoptosis. *Am. J. Physiol., Cell Physiol.* 301: C954-C967.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.


 MONOS
Satisfaction
Guaranteed

Try **Tropomyosin (F-6): sc-74480** or **Tropomyosin (C-3): sc-376339**, our highly recommended monoclonal alternatives to Tropomyosin (FL-284).