

# Tropomyosin $\alpha$ (K-21): sc-32514

## BACKGROUND

Tropomyosins are a group of structural proteins. Tropomyosins are present in virtually all eukaryotic cells, both muscle and non-muscle, where they bind actin filaments and function to modulate actin-myosin interaction and stabilize actin filament structure. Tropomyosin  $\alpha$  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  $\beta$  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), non-muscle/fibroblast TM36/epithelial TMe1 (isoform 2) and non-muscle (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.

## CHROMOSOMAL LOCATION

Genetic locus: TPM1 (human) mapping to 15q22.2.

## SOURCE

Tropomyosin  $\alpha$  (K-21) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Tropomyosin  $\alpha$  of rat origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-32514 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Tropomyosin  $\alpha$  (K-21) is recommended for detection of Tropomyosin  $\alpha$  of human and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with Tropomyosin  $\gamma$ .

Tropomyosin  $\alpha$  (K-21) is also recommended for detection of Tropomyosin  $\alpha$  in additional species, including canine and avian.

Suitable for use as control antibody for Tropomyosin  $\alpha$  siRNA (h): sc-43470, Tropomyosin  $\alpha$  siRNA (r): sc-270231, Tropomyosin  $\alpha$  shRNA Plasmid (h): sc-43470-SH, Tropomyosin  $\alpha$  shRNA Plasmid (r): sc-270231-SH, Tropomyosin  $\alpha$  shRNA (h) Lentiviral Particles: sc-43470-V and Tropomyosin  $\alpha$  shRNA (r) Lentiviral Particles: sc-270231-V.

Molecular Weight of Tropomyosin  $\alpha$ : 35-45 kDa.

Positive Controls: human heart extract: sc-363763, CCD-1064Sk cell lysate: sc-2263 or L8 cell lysate: sc-3807.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz<sup>™</sup>: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



Tropomyosin  $\alpha$  (K-21): sc-32514. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **Tropomyosin (F-6): sc-74480** or **Tropomyosin  $\alpha$  (F-6): sc-376541**, our highly recommended monoclonal alternatives to Tropomyosin  $\alpha$  (K-21).