SANTA CRUZ BIOTECHNOLOGY, INC.

Tropomyosin γ (164J2U): sc-517613

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The Power to Question

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 α is encoded by the TPM1 gene, which maps to human chromosome 15q22.1 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), 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.

REFERENCES

1. Tiso, N., Rampoldi, L., Pallavicini, A., Zimbello, R., Pandolfo, D., Valle, G., Lanfranchi, G. and Danieli, G.A. 1997. Fine mapping of five human skeletal muscle genes: Tropomyosin α, Tropomyosin β, Troponin I slow-twitch, Troponin I fast-twitch and Troponin C fast. Biochem. Biophys. Res. Commun. 230: 347-350.
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3. Goldmann, W.H. 2000. Binding of Tropomyosin-troponin to Actin increases filament bending stiffness. Biochem. Biophys. Res. Commun. 276: 1225-1228.
4. Ohtsuki, I. and Shiraishi, F. 2002. Periodic binding of Troponin C.I and Troponin I to Tropomyosin-Actin filaments. J. Biochem. 131: 739-743.
5. SWISS-PROT/TrEMBL (136090). World Wide web URL: http://www.expasy.ch/sprot/sprot-top.html
6. LocusLink Report (LocusID: 7168). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: TPM3 (human) mapping to 1q21.3; Tpm3 (mouse) mapping to 3 F1.

SOURCE

Tropomyosin γ (164J2U) is a mouse monoclonal antibody raised against recombinant Tropomyosin γ of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Tropomyosin γ (164J2U) is recommended for detection of Tropomyosin γ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Suitable for use as control antibody for Tropomyosin γ siRNA (h): sc-43480, Tropomyosin γ siRNA (m): sc-43481, Tropomyosin γ shRNA Plasmid (h): sc-43480-SH, Tropomyosin γ shRNA Plasmid (m): sc-43481-SH, Tropomyosin γ shRNA (h) Lentiviral Particles: sc-43480-V and Tropomyosin γ shRNA (m) Lentiviral Particles: sc-43481-V.

Molecular Weight of Tropomyosin γ: 33 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.