SANTA CRUZ BIOTECHNOLOGY, INC.

MYL4 (I-11): sc-109581

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Myosin is a highly conserved, ubiquitously expressed protein that interacts with actin to generate the force for cellular movements. Conventional Myosins are hexameric proteins consisting of two heavy chain subunits, a pair of non-phosphorylatable light chain subunits and a pair of phosphorylatable light chain subunits. Three general classes of Myosin have been cloned: smooth muscle Myosins, striated muscle Myosins and non-muscle Myosins. MYL4 (Myosin light chain 4), also known as Myosin light chain 1, embryonic muscle/atrial isoform and Myosin light chain alkali, GT-1 isoform, is a 197 amino acid protein that is one of the numerous regulatory Myosin light chains. Regulatory Myosin light chains, also known as MLCs, regulate contraction in smooth muscle and non-muscle cells via phosphorylation by Myosin light chain kinase (MLCK). Phosphorylation of regulatory Myosin light chains is catalyzed by MLCK in the presence of calcium and calmodulin and it increases the actin-activated Myosin ATPase activity, thereby regulating the contractile activity. Myosin light chain is also located in striated skeletal muscle, where its function remains undefined.

CHROMOSOMAL LOCATION

Genetic locus: MYL4 (human) mapping to 17q21.32; Myl4 (mouse) mapping to 11 E1.

SOURCE

MYL4 (I-11) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MYL4 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-109581 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MYL4 (I-11) is recommended for detection of MYL4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

MYL4 (I-11) is also recommended for detection of MYL4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MYL4 siRNA (h): sc-93643, MYL4 siRNA (m): sc-149749, MYL4 shRNA Plasmid (h): sc-93643-SH, MYL4 shRNA Plasmid (m): sc-149749-SH, MYL4 shRNA (h) Lentiviral Particles: sc-93643-V and MYL4 shRNA (m) Lentiviral Particles: sc-149749-V.

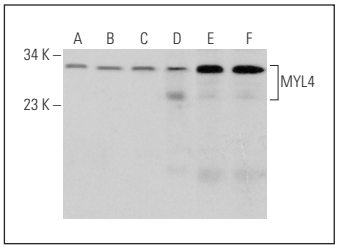
Molecular Weight of MYL4: 22 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, NIH/3T3 whole cell lysate: sc-2210 or mouse liver extract: sc-2256.

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™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 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™ Mounting Medium: sc-24941.

DATA



MYL4 (I-11): sc-109581. Western blot analysis of MYL4 expression in Hep G2 (**A**), NIH/3T3 (**B**) and Neuro-2A (**C**) whole cell lysates and mouse liver (**D**), mouse heart (**E**) and mouse skeletal muscle (**F**) tissue extracts.

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 or our catalog for detailed protocols and support products.