SANTA CRUZ BIOTECHNOLOGY, INC.

MYL7 (D-18): sc-34489

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Encoded by the MYL7 gene, myosin regulatory light chain 7, also designated myosin regulatory light chain 2, atrial isoform (MLC-2a), is part of a hexameric complex of two heavy chains and four light chains predominantly expressed in adult atrial muscle. Myosin regulatory light chain 7 binds calcium and has been shown to be a useful molecular marker for cardiac chamber specification. The co-expression of myosin regulatory light chain 7 and myosin light chain 2 (MLC2v) in the outflow tract and atrioventricular canal, together with the single expression in the atrial (MYL7) and ventricular (MYL2) myo-cardium, permits the delineation of their boundaries. At the amino acid level there is 95% homology between the human and mouse myosin regulatory light chain 7 sequences.

REFERENCES

1. Kubalak, S.W., et al. 1994. Chamber specification of atrial MLC2 expression precedes septation during murine cardiogenesis. J. Biol. Chem. 269: 16961-16970.
2. Gruber, P.J., et al. 1998. Downregulation of atrial markers during cardiac chamber morphogenesis is irreversible in murine embryos. Development 125: 4427-4438.
3. Franco, D., et al. 1999. MLC2a and MLC2v identifies the embryonic outflow tract myocardium in the developing rodent heart. Anat. Rec. 254: 135-146.
4. Doevendans, P.A., et al. 2000. The murine atrial MLC2 gene: a member of an evolutionarily conserved family of contractile proteins. Cytogenet. Cell Genet. 90: 248-252.
5. Nishigaki, R., et al. 2002. An extra human chromosome 21 reduces MLC2a expression in chimeric mice and down syndrome. Biochem. Biophys. Res. Commun. 295: 112-118.

CHROMOSOMAL LOCATION

Genetic locus: MYL7 (human) mapping to 7p13; Myl7 (mouse) mapping to 11 A1.

SOURCE

MYL7 (D-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of myosin regulatory light chain 7 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-34489 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

MYL7 (D-18) is recommended for detection of myosin regulatory light chain 7 of mouse, rat and human 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 myosin regulatory light chain 2.

MYL7 (D-18) is also recommended for detection of myosin regulatory light chain 7 in additional species, including equine, canine, bovine and porcine.

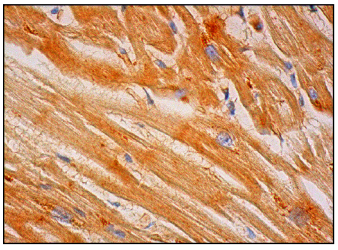
Suitable for use as control antibody for MYL7 siRNA (h): sc-45410, MYL7 siRNA (m): sc-45411, MYL7 shRNA Plasmid (h): sc-45410-SH, MYL7 shRNA Plasmid (m): sc-45411-SH, MYL7 shRNA (h) Lentiviral Particles: sc-45410-V and MYL7 shRNA (m) Lentiviral Particles: sc-45411-V.

Molecular Weight of MYL7: 19 kDa.

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



MYL7 (D-18): sc-34489. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

RESEARCH USE

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