

MYL7 (D-9): sc-515026

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) myocardium, 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-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 134-156 near the C-terminus of MYL7 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515026 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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-9) is recommended for detection of MYL7 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

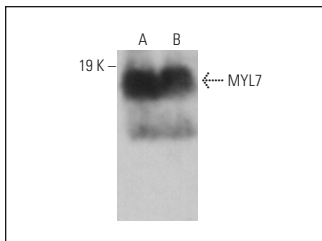
Molecular Weight of MYL7: 19 kDa.

Positive Controls: MYL7 (h): 293T Lysate: sc-114113, mouse heart extract: sc-2254 or rat heart extract: sc-2393.

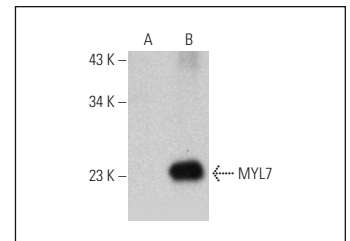
RECOMMENDED SUPPORT REAGENTS

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, 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



MYL7 (D-9): sc-515026. Western blot analysis of MYL7 expression in mouse heart (A) and rat heart (B) tissue extracts.



MYL7 (D-9): sc-515026. Western blot analysis of MYL7 expression in non-transfected: sc-117752 (A) and human MYL7 transfected: sc-114113 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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