

Mylc2b (m): 293T Lysate: sc-121884

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 myosins exist and are designated smooth muscle myosins, striated muscle myosins and non-muscle myosins. Myosin regulatory light chains, including MRCL3 (also known as MRLC3 or MLCB), MRLC2 (also known as MLC-B) and MYL9 (also known as LC20, MLC2, MRLC1 or MYRL2), regulate contraction in smooth muscle and non-muscle cells via phosphorylation by myosin light chain kinase (MLCK). Phosphorylation of myosin regulatory light chains, catalyzed by MLCK in the presence of calcium and calmodulin, increases Actin-activated myosin ATPase activity, thereby regulating contractile activity. Mylc2b (myosin, light chain 12B, regulatory), also known as Mrlc2, is a 172 amino acid protein that contains three EF-hand domains and exists as the functional homolog of human MRLC2.

REFERENCES

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4. Numata, T., et al. 2001. Functional role of the C-terminal domain of smooth muscle myosin light chain kinase on the phosphorylation of smooth muscle myosin. *J. Biochem.* 129: 437-444.
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7. Wilson, D.P., et al. 2005. Integrin-linked kinase is responsible for Ca^{2+} -independent myosin diphosphorylation and contraction of vascular smooth muscle. *Biochem. J.* 392: 641-648.
8. Szczesna-Cordary, D., et al. 2005. The E22K mutation of myosin RLC that causes familial hypertrophic cardiomyopathy increases calcium sensitivity of force and ATPase in transgenic mice. *J. Cell Sci.* 118: 3675-3683.
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STORAGE

Store at -20°C . Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: Mylc2b (mouse) mapping to 17 E1.3.

PRODUCT

Mylc2b (m): 293T Lysate represents a lysate of mouse Mylc2b transfected 293T cells and is provided as 100 μg protein in 200 μl SDS-PAGE buffer.

APPLICATIONS

Mylc2b (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Mylc2b antibodies. Recommended use: 10-20 μl per lane.

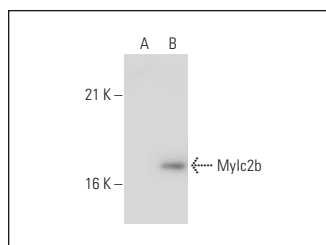
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

MRCL3/MRLC2/MYL9 (E-4): sc-28329 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Mylc2b expression in Mylc2b transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



MYL9/MYL12A/B (E-4): sc-28329. Western blot analysis of Mylc2b expression in non-transfected: sc-117752 (A) and mouse Mylc2b transfected: sc-121884 (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.