

# MYL6B (YY-06): sc-100951

## BACKGROUND

MYL6B (Myosin light chain 6B) is a heavy chain regulator found in smooth muscle and non-muscle Myosin complexes. Three general classes of Myosin have been cloned: smooth muscle Myosins, striated muscle Myosins and non-muscle Myosins. Contractile activity in smooth muscle is regulated by the calcium/calmodulin-dependent phosphorylation of Myosin light chain by Myosin light chain kinase. Myosin heavy chains are encoded by the MYH gene family and have Actin-activated ATPase activity which generates the motor function of Myosin. Although it contains three of the EF-hand domains common to Actin and other Myosin regulating proteins, MYL6B does not bind calcium during contraction. It is primarily found in a hexamer consisting of four light chains and two heavy chains. It most commonly interacts with Myosin Va, an Actin based motor that can move in large steps. MYL6B is expressed in most tissues with neurons and smooth muscle tissue having the highest expression.

## REFERENCES

1. Kumon, A. and Villar-Palasi, C. 1979. Purification and properties of Troponin T kinase from rabbit skeletal muscle. *Biochim. Biophys. Acta* 566: 305-320.
2. Payne, M.E., Schworer, C.M. and Soderling, T.R. 1983. Purification and characterization of rabbit liver calmodulin-dependent glycogen synthase kinase. *J. Biol. Chem.* 258: 2376-2382.
3. Tawata, M., Kobayashi, R. and Field, J.B. 1983. Partial purification and characterization of Myosin light chain kinase from bovine thyroid gland. *Endocrinology* 112: 701-706.
4. Wakusawa, S., Takeda, K., Miyamoto, K. and Hidaka, H. 1992. Increase of vinblastine accumulation by inhibitors of calmodulin-dependent cell functions in rat ascites hepatoma AH66 cells. *Anticancer Res.* 12: 2021-2024.
5. Mitsui, T., Inagaki, M. and Ikebe, M. 1992. Purification and characterization of smooth muscle Myosin-associated phosphatase from chicken gizzards. *J. Biol. Chem.* 267: 16727-16735.
6. Thorsteinsdóttir, S., Roelen, B.A., Goumans, M.J., Ward-van Oostwaard, D., Gaspar, A.C. and Mummery, C.L. 1999. Expression of the  $\alpha$  6A integrin splice variant in developing mouse embryonic stem cell aggregates and correlation with cardiac muscle differentiation. *Differentiation* 64: 173-184.
7. Bicer, S. and Reiser, P.J. 2004. Myosin light chain isoform expression among single mammalian skeletal muscle fibers: species variations. *J. Muscle Res. Cell Motil.* 25: 623-633.
8. Takeya, K., Loutzenhiser, K., Shiraishi, M., Loutzenhiser, R.D. and Walsh, M.P. 2008. A highly sensitive technique to measure Myosin regulatory light chain phosphorylation: The first quantification in renal arterioles. *Am. J. Physiol. Renal Physiol.* 294: F1487-F1492.

## CHROMOSOMAL LOCATION

Genetic locus: MYL6B (human) mapping to 12q13.2.

## SOURCE

MYL6B (YY-06) is a mouse monoclonal antibody raised against recombinant MYL6B of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

MYL6B (YY-06) is recommended for detection of MYL6B of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MYL6B siRNA (h): sc-95969, MYL6B shRNA Plasmid (h): sc-95969-SH and MYL6B shRNA (h) Lentiviral Particles: sc-95969-V.

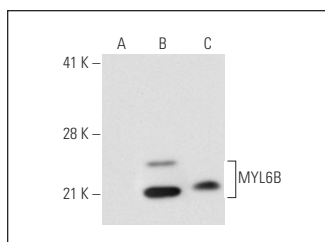
Molecular Weight of MYL6B: 20 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or MYL6B (h): 293 Lysate: sc-113030.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



MYL6B (YY-06): sc-100951. Western blot analysis of MYL6B expression in non-transfected 293: sc-110760 (A), human MYL6B transfected 293: sc-113030 (B) and K-562 (C) whole cell lysates.

## 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](http://www.scbt.com) for detailed protocols and support products.