

Skeletal Muscle Myosin (S58): sc-32733

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. 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. Myosin heavy chains, which were initially isolated from a human fetal skeletal muscle, are the major determinant in the speed of contraction of skeletal muscle. Various isoforms of myosin heavy chain are differentially expressed depending on the functional activity of the muscle.

CHROMOSOMAL LOCATION

Genetic locus: MYH3 (human) mapping to 17p13.1; Myh3 (mouse) mapping to 11 B3.

SOURCE

Skeletal Muscle Myosin (S58) is a mouse monoclonal antibody raised against myosin purified from upper leg muscle of embryonic day 19 white Leghorn chicken origin.

PRODUCT

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

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.

APPLICATIONS

Skeletal Muscle Myosin (S58) is recommended for detection of slow fiber-specific Skeletal Muscle Myosin heavy chain of mouse, rat, human and avian 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for MYH3 siRNA (h): sc-93798, MYH3 siRNA (m): sc-149742, MYH3 shRNA Plasmid (h): sc-93798-SH, MYH3 shRNA Plasmid (m): sc-149742-SH, MYH3 shRNA (h) Lentiviral Particles: sc-93798-V and MYH3 shRNA (m) Lentiviral Particles: sc-149742-V.

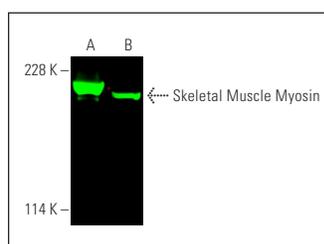
Molecular Weight of Skeletal Muscle Myosin: 223 kDa.

Positive Controls: human skeletal muscle extract: sc-363776, A-10 cell lysate: sc-3806 or rat skeletal muscle extract: sc-364810.

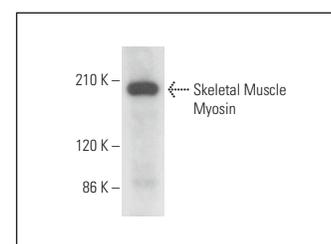
RECOMMENDED SUPPORT REAGENTS

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, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (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



Skeletal Muscle Myosin (S58): sc-32733. Near-infrared western blot analysis of Skeletal Muscle Myosin expression in human skeletal muscle (A) and rat skeletal muscle (B) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



Skeletal Muscle Myosin (S58): sc-32733. Western blot analysis of Skeletal Muscle Myosin expression in human skeletal muscle tissue extract.

SELECT PRODUCT CITATIONS

- Jaiswal, A., et al. 2010. Peripheral benzodiazepine receptor ligand Ro5-4864 inhibits isoprenaline-induced cardiac hypertrophy in rats. *Eur. J. Pharmacol.* 644: 146-153.
- Jaiswal, A., et al. 2010. Effect of U50,488H, a κ-opioid receptor agonist on myocardial α- and β-myosin heavy chain expression and oxidative stress associated with isoproterenol-induced cardiac hypertrophy in rat. *Mol. Cell. Biochem.* 345: 231-240.
- Chen, S.S., et al. 2013. Di-(2-ethylhexyl)-phthalate reduces MyoD and myogenin expression and inhibits myogenic differentiation in C2C12 cells. *J. Toxicol. Sci.* 38: 783-791.
- Li, D., et al. 2014. Hyperplasia and cellularity changes in IGF-1-over-expressing skeletal muscle of crucian carp. *Endocrinology* 155: 2199-2212.
- Gao, Y., et al. 2016. Depletion of myostatin b promotes somatic growth and lipid metabolism in zebrafish. *Front. Endocrinol.* 7: 88.
- Huang, P., et al. 2019. LncRNA MEG3 functions as a ceRNA in regulating hepatic lipogenesis by competitively binding to miR-21 with LRP6. *Metab. Clin. Exp.* 94: 1-8.



See **Skeletal Muscle Myosin (F59): sc-32732** for Skeletal Muscle Myosin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.