# SANTA CRUZ BIOTECHNOLOGY, INC.

# MYH2 (6D595): sc-71632



#### 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 (MLC) by myosin light chain kinase. Myosin heavy chains, which are encoded by the MYH gene family, contain Actin-activated ATPase activity which generates the motor function of myosin. Myosin heavy chains were initially isolated from a human fetal skeletal muscle and are the major determinant in the speed of contraction of skeletal muscle. Various isoforms of myosin heavy chains activity of the muscle.

# REFERENCES

- Saez, C.G., et al. 1990. Human nonmuscle myosin heavy chain mRNA: generation of diversity through alternative polyadenylylation. Proc. Natl. Acad. Sci. USA 87: 1164-1168.
- Hughes, S.M., et al. 1993. Three slow myosin heavy chains sequentially expressed in developing mammalian skeletal muscle. Dev. Biol. 158: 183-199.

#### **CHROMOSOMAL LOCATION**

Genetic locus: MYH2 (human) mapping to 17p13.1; Myh2 (mouse) mapping to 11 B3.

#### SOURCE

MYH2 (6D595) is a mouse monoclonal antibody raised against neonatal skeletal muscle Myosin of human origin.

## PRODUCT

Each vial contains 200  $\mu g\, lg G_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

#### **APPLICATIONS**

MYH2 (6D595) is recommended for detection of neonatal slow like MYH2 of mouse, rat, humam, rabbit and fish 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 immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for MYH2 siRNA (h): sc-106273, MYH2 siRNA (m): sc-149741, MYH2 shRNA Plasmid (h): sc-106273-SH, MYH2 shRNA Plasmid (m): sc-149741-SH, MYH2 shRNA (h) Lentiviral Particles: sc-106273-V and MYH2 shRNA (m) Lentiviral Particles: sc-149741-V.

Molecular Weight of MYH2: 200 kDa.

Positive Controls: rat skeletal muscle extract: sc-364810, RD whole cell lysate: sc-364791 or human skeletal muscle extract: sc-363776.

#### STORAGE

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

### DATA





MYH2 (6D595): sc-71632. Western blot analysis of MYH2 expression in human skeletal muscle tissue extract.

# MYH2 (6D595): sc-71632. Western blot analysis of MYH2 expression in rat skeletal tissue extract.

# SELECT PRODUCT CITATIONS

- Orbán T.I., et al. 2009. Applying a "double-feature" promoter to identify cardiomyocytes differentiated from human embryonic stem cells following transposon-based gene delivery. Stem Cells 27: 1077-1087.
- Moon, Y.M., et al. 2016. Apoptotic action of botulinum toxin on masseter muscle in rats: early and late changes in the expression of molecular markers. Springerplus 5: 991.
- 3. Liu, X., et al. 2017. Fibroblast growth factor 21 (FGF21) promotes formation of aerobic myofibers via the FGF21-SIRT1-AMPK-PGC1 $\alpha$  pathway. J. Cell. Physiol. 232: 1893-1906.
- Duan, Y., et al. 2017. Alteration of muscle fiber characteristics and the AMPK-SIRT1-PGC-1α axis in skeletal muscle of growing pigs fed low-protein diets with varying branched-chain amino acid ratios. Oncotarget 8: 107011-107021.
- da Rocha, A.L., et al. 2017. Treadmill slope modulates inflammation, fiber type composition, androgen, and glucocorticoid receptors in the skeletal muscle of overtrained mice. Front. Immunol. 8: 1378.
- Gu, H., et al. 2021. Targeted overexpression of PPARγ in skeletal muscle by random insertion and CRISPR/Cas9 transgenic pig cloning enhances oxidative fiber formation and intramuscular fat deposition. FASEB J. 35: e21308.
- Zhang, L., et al. 2022. Potential nutritional healthy-aging strategy: enhanced protein metabolism by balancing branched-chain amino acids in a finishing pig model. Food Funct. 13: 6217-6232.

#### **RESEARCH USE**

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



See **MYH2 (A4.74): sc-53095** for MYH2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor<sup>®</sup> 488, 546, 594, 647, 680 and 790.