SANTA CRUZ BIOTECHNOLOGY, INC.

myoglobin (A-6): sc-393020

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Myoglobin is a cytosolic oxygen-binding protein responsible for the storage and diffusion of oxygen within myocytes. Expression of myoglobin is highest in skeletal and cardiac muscle. Myoglobin is necessary for the maintenance of mitochondrial respiration during heavy and sustained contractile activity, and it is thought to transport oxygen from erythroyctes to mitochondria. The genomic structure of myoglobin appears to be conserved across a broad range of species, and contains a putative polyadenylation signal and a poly-pyrimidine-rich region. Human myoglobin is specified by a single gene, and it has been identified in human smooth muscle.

CHROMOSOMAL LOCATION

Genetic locus: MB (human) mapping to 22q12.3; Mb (mouse) mapping to 15 D3.

SOURCE

myoglobin (A-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 123-151 at the C-terminus of myoglobin of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

myoglobin (A-6) is available conjugated to agarose (sc-393020 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393020 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393020 PE), fluorescein (sc-393020 FITC), Alexa Fluor® 488 (sc-393020 AF488), Alexa Fluor® 546 (sc-393020 AF546), Alexa Fluor® 594 (sc-393020 AF594) or Alexa Fluor® 647 (sc-393020 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393020 AF680) or Alexa Fluor® 790 (sc-393020 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393020 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

myoglobin (A-6) is recommended for detection of myoglobin 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 myoglobin siRNA (h): sc-35993, myoglobin siRNA (m): sc-35994, myoglobin shRNA Plasmid (h): sc-35993-SH, myoglobin shRNA Plasmid (m): sc-35994-SH, myoglobin shRNA (h) Lentiviral Particles: sc-35993-V and myoglobin shRNA (m) Lentiviral Particles: sc-35994-V.

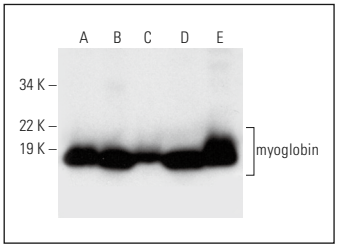
Molecular Weight of myoglobin: 17 kDa.

Positive Controls: rat heart extract: sc-2393, human heart extract: sc-363763 or mouse heart extract: sc-2254.

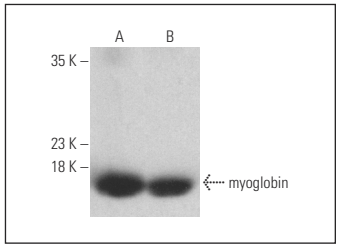
STORAGE

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

DATA



myoglobin (A-6): sc-393020. Western blot analysis of myoglobin expression in rat skeletal muscle (**A**), rat heart (**B**), human heart (**C**), mouse heart (**D**) and mouse skeletal muscle (**E**) tissue extracts.



myoglobin (A-6) HRP: sc-393020 HRP. Direct western blot analysis of myoglobin expression in mouse heart (**A**) and rat heart (**B**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Geng, J., et al. 2019. TIGAR regulates mitochondrial functions through SIRT1-PGC1α pathway and translocation of TIGAR into mitochondria in skeletal muscle. FASEB J. 33: 6082-6098.
2. Elia, A., et al. 2019. Skeletal muscle, haematological and splenic volume characteristics of elite breath-hold divers. Eur. J. Appl. Physiol. 119: 2499-2511.
3. Gogulothu, R., et al. 2020. Disrupted expression of genes essential for skeletal muscle fibre integrity and energy metabolism in vitamin D deficient rats. J. Steroid Biochem. Mol. Biol. 197: 105525.
4. Apaoblaza, A., et al. 2020. Muscle from grass- and grain-fed cattle differs energetically. Meat Sci. 161: 107996.
5. He, Z.Z., et al. 2022. COPS3 AS lncRNA enhances myogenic differentiation and maintains fast-type myotube phenotype. Cell. Signal. 95: 110341.
6. Yang, X., et al. 2022. SESN2 prevents the slow-to-fast myofiber shift in denervated atrophy via AMPK/PGC-1α pathway. Cell. Mol. Biol. Lett. 27: 66.
7. Koma, R., et al. 2023. TOM complex-independent transport pathway of myoglobin into mitochondria in C2C12 myotubes. Physiol. Rep. 11: e15632.
8. Sudharma, A.A., et al. 2023. Atrophic remodeling of the heart during vitamin D deficiency and insufficiency in a rat model. J. Nutr. Biochem. 119: 109382.

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.