SANTA CRUZ BIOTECHNOLOGY, INC.

myoglobin (FL-154): sc-25607

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 polypyrimidine-rich region. Human myoglobin is specified by a single gene, and it has been identified in human smooth muscle.

REFERENCES

1. Kagen, L., et al. 1977. Serum myoglobin in myocardial infarction: the "staccato phenomenon". Is acute myocardial infarction in man an intermittent event? Am. J. Med. 62: 86-92.
2. Jeffreys, A.J., et al. 1984. The human myoglobin gene: a third dispersed globin locus in the human genome. Nucleic Acids Res. 12: 3235-3243.
3. Akaboshi, E. 1985. Cloning of the human myoglobin gene. Gene 33: 241-249.

CHROMOSOMAL LOCATION

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

SOURCE

myoglobin (FL-154) is a rabbit polyclonal antibody raised against amino acids 1-154 representing full length myoglobin of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

myoglobin (FL-154) is recommended for detection of myoglobin of mouse, rat and human 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)], 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).

myoglobin (FL-154) is also recommended for detection of myoglobin in additional species, including equine, canine and porcine.

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.

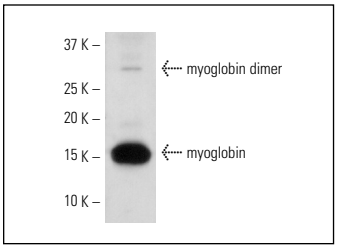
Molecular Weight of myoglobin: 17 kDa.

Positive Controls: rat heart extract: sc-2393, human heart extract: sc-363763 or rat skeletal muscle extract: sc-364810.

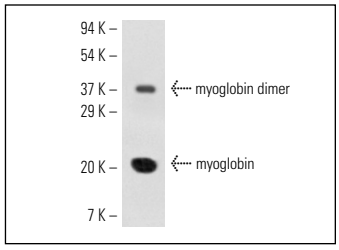
STORAGE

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

DATA



myoglobin (FL-154): sc-25607. Western blot analysis of myoglobin expression in rat skeletal muscle tissue extract. Note differential dimerization in rat skeletal muscle.



myoglobin (FL-154): sc-25607. Western blot analysis of myoglobin expression in rat heart tissue extract.

SELECT PRODUCT CITATIONS

1. Raffaello, A., et al. 2006. Denervation in murine fast-twitch muscle: short-term physiological changes and temporal expression profiling. Physiol. Genomics 25: 60-74.
2. Watanabe, M., et al. 2008. Synchronized changes in transcript levels of genes activating cold exposure-induced thermogenesis in brown adipose tissue of experimental animals. Biochim. Biophys. Acta 1777: 104-112.
3. Gao, Z., et al. 2009. Butyrate improves Insulin sensitivity and increases energy expenditure in mice. Diabetes 58: 1509-1517.
4. Baluchamy, S., et al. 2010. Differential oxidative stress gene expression profile in mouse brain after proton exposure. *In Vitro* Cell. Dev. Biol. Anim. 46: 718-725.
5. Ormerod, J.O., et al. 2011. The role of vascular myoglobin in nitrite-mediated blood vessel relaxation. Cardiovasc. Res. 89: 560-565.
6. Merrill, J.F., et al. 2012. Iron deficiency causes a shift in AMP-activated protein kinase (AMPK) subunit composition in rat skeletal muscle. Nutr. Metab. 9: 104.
7. Murphy, S., et al. 2015. Simultaneous pathoproteomic evaluation of the dystrophin-glycoprotein complex and secondary changes in the mdx-4cv mouse model of duchenne muscular dystrophy. Biology 4: 397-423.

RESEARCH USE

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