

myoglobin (F-9): sc-74404

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 erythrocytes 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

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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.
4. Blanchetot, A., et al. 1986. The mouse myoglobin gene. Characterisation and sequence comparison with other mammalian myoglobin genes. *Eur. J. Biochem.* 59: 469-474.
5. Van Nieuwenhoven, F.A., et al. 1995. Discrimination between myocardial and skeletal muscle injury by assessment of the plasma ratio of myoglobin over fatty acid-binding protein. *Circulation* 92: 2848-2854.
6. Qiu, Y., et al. 1998. Identification of myoglobin in human smooth muscle. *J. Biol. Chem.* 273: 23426-23432.
7. Garry, D.J., et al. 1998. Mice without myoglobin. *Nature* 395: 905-905.
8. Srinivas, V.S., et al. 2001. Myoglobin levels at 12 hours identify patients at low risk for 30-day mortality after thrombolysis in acute myocardial infarction: a Thrombolysis in Myocardial Infarction 10B substudy. *Am. Heart J.* 142: 29-36.

CHROMOSOMAL LOCATION

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

SOURCE

myoglobin (F-9) is a mouse monoclonal antibody raised against amino acids 1-154 representing full length myoglobin of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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.

APPLICATIONS

myoglobin (F-9) 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.

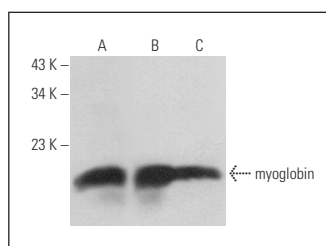
Molecular Weight of myoglobin: 17 kDa.

Positive Controls: rat heart extract: sc-2393, mouse heart extract: sc-2254 or mouse skeletal muscle extract: sc-364250.

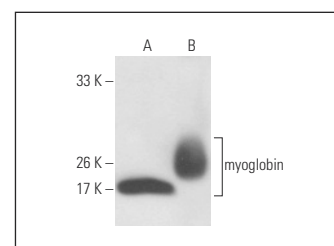
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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



myoglobin (F-9): sc-74404. Western blot analysis of myoglobin expression in rat heart (A), mouse heart (B) and mouse skeletal muscle (C) tissue extracts.



myoglobin (F-9): sc-74404. Western blot analysis of myoglobin expression in rat heart (A) tissue extract and purified horse myoglobin (B).

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.