

# myoglobin (M-19): sc-8081

## 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

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.

## CHROMOSOMAL LOCATION

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

## SOURCE

myoglobin (M-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of myoglobin of mouse origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-8081 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

myoglobin (M-19) 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 (M-19) is also recommended for detection of myoglobin in additional species, including equine 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.

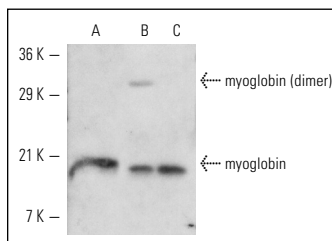
Molecular Weight of myoglobin: 17 kDa.

Positive Controls: rat heart extract: sc-2393 or rat skeletal muscle tissue extract: sc-364810.

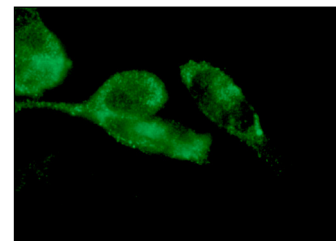
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



myoglobin (M-19): sc-8081. Western blot analysis of human recombinant myoglobin (A) and myoglobin expression in rat skeletal muscle (B) and rat heart (C) tissue extracts. Note differential myoglobin dimerization in rat skeletal muscle tissue (B).



myoglobin (M-19): sc-8081. Immunofluorescence staining of methanol-fixed SJRH30 cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

1. Kamei, Y., et al. 2004. Skeletal muscle FOXO1 (FKHR) transgenic mice have less skeletal muscle mass, down-regulated Type I (slow twitch/red muscle) fiber genes, and impaired glycemic control. *J. Biol. Chem.* 279: 41114-41123.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **myoglobin (A-6): sc-393020** or **myoglobin (A-9): sc-74525**, our highly recommended monoclonal alternatives to myoglobin (M-19).