SANTA CRUZ BIOTECHNOLOGY, INC.

myoglobin (6): sc-101520

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.
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: 905-908.
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.
9. Penttilä, K., et al. 2002. Myoglobin, creatine kinase MB isoforms and creatine kinase MB mass in early diagnosis of myocardial infarction in patients with acute chest pain. Clin. Biochem. 35: 647-653.

CHROMOSOMAL LOCATION

Genetic locus: MB (human) mapping to 22q12.3.

SOURCE

myoglobin (6) is a mouse monoclonal antibody raised against recombinant myoglobin of human 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.

APPLICATIONS

myoglobin (6) is recommended for detection of myoglobin of 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)] 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 shRNA Plasmid (h): sc-35993-SH and myoglobin shRNA (h) Lentiviral Particles: sc-35993-V.

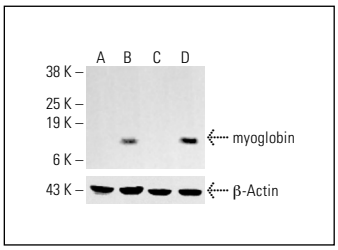
Molecular Weight of myoglobin: 17 kDa.

Positive Controls: Ramos cell lysate: sc-2216, SJRH30 cell lysate: sc-2287 or human heart extract: sc-363763.

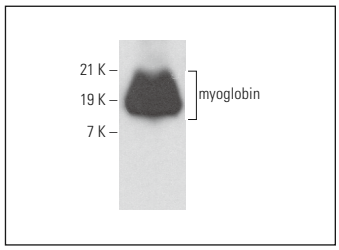
RECOMMENDED SUPPORT REAGENTS

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).

DATA



myoglobin (6): sc-101520. Western blot analysis of myoglobin expression in untreated HeLa (**A**), chemically-treated HeLa (**B**), untreated HCT-116 (**C**) and chemically-treated HCT-116 (**D**) whole cell lysates. β-Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



myoglobin (6): sc-101520. Western blot analysis of myoglobin expression in human heart tissue extract.

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 for detailed protocols and support products.