

myoglobin (6H8B5): sc-65982

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.
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-M/B isoforms and creatine kinase-M/B 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; Mb (mouse) mapping to 15 D3.

SOURCE

myoglobin (6H8B5) is a mouse monoclonal antibody raised against purified truncated recombinant myoglobin of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

myoglobin (6H8B5) 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), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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: human heart extract: sc-363763.

SELECT PRODUCT CITATIONS

1. Marfella, R., et al. 2009. Myocardial lipid accumulation in patients with pressure-overloaded heart and metabolic syndrome. *J. Lipid Res.* 50: 2314-2323.
2. Barbieri, M., et al. 2012. Effects of PPARs agonists on cardiac metabolism in littermate and cardiomyocyte-specific PPAR-γ-knockout (CM-PGKO) mice. *PLoS ONE* 7: e35999.
3. Padmanaban, G., et al. 2014. Identification of peptides that selectively bind to myoglobin by biopanning of phage displayed-peptide library. *J. Biotechnol.* 187: 43-50.

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.