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Myoglobin Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1074a

Product Information

Application	WB, IHC, E
Primary Accession	P02144
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	5A2G8
Isotype	IgG1
Calculated MW	17184
Description	Myoglobin (MB), with 154-amino acid protein (about 17kDa), is a member of the globin superfamily and expression of myoglobin is highest in skeletal and cardiac muscle. Functionally, myoglobin is well accepted as an O2-storage protein in muscle, capable of releasing O2 during periods of hypoxia or anoxia. Myoglobin is also thought to buffer intracellular O2 concentration when muscle activity increases and to facilitate intracellular O2 diffusion by providing a parallel path that augments simple diffusion of dissolved O2. Furthermore, myoglobin is used together with cTnI or cTnT in clinical practise for better specificity in AMI diagnosis.
Immunogen	Purified recombinant fragment of Myoglobin expressed in E. Coli.
Formulation	Purified antibody in PBS containing 0.03% sodium azide.

Additional Information

Gene ID	4151
Other Names	Myoglobin, MB
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Myoglobin Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MB (HGNC:6915)

Function	Monomeric heme protein which primary function is to store oxygen and facilitate its diffusion within muscle tissues. Reversibly binds oxygen through a pentacoordinated heme iron and enables its timely and efficient release as needed during periods of heightened demand (PubMed:30918256, PubMed:34679218). Depending on the oxidative conditions of tissues and cells, and in addition to its ability to bind oxygen, it also has a nitrite reductase activity whereby it regulates the production of bioactive nitric oxide (PubMed:32891753). Under stress conditions, like hypoxia and anoxia, it also protects cells against reactive oxygen species thanks to its pseudoperoxidase activity (PubMed:34679218).
Cellular Location	Cytoplasm, sarcoplasm

References

1. George A. Ordway, Daniel J. Garry. J. Exp. Biol., Sep 2004; 207: 3441-3446. 2. Ulrich Floel, Tim Laussmann, Axel Goecke. Circ. Res., Apr 2005; 96: e68 - e75.

Images

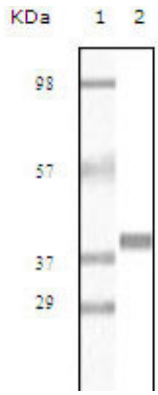

Figure 1: Western blot analysis using Myoglobin mouse mAb against truncated Myoglobin recombinant protein(AA: 2-154).

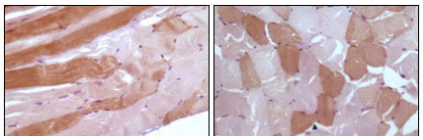

Figure 2: Immunohistochemical analysis of paraffin-embedded human skeletal muscle tissue showing cytoplasmic localization using anti-Myoglobin antibody with DAB staining.