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Myoglobin

Catalog # PVGS1474

Product Information

Primary Accession	P02144
Species	Human
Sequence	Met1-Gly154, expressed with additional N-terminal sequence (MHHHHHHDDDDK)
Purity	> 95% as analyzed by SDS-PAGE
Endotoxin Level	
Expression System	E. coli
Formulation	Supplied as a 0.22 μm filtered solution in 20 mM Tris-HCl, 1 mM DTT, 100 mM NaCl, 20% glycerol, pH 8.0.
Storage & Stability	Upon receiving, this product remains stable for up to 6 months at -20°C or below and 1-2 weeks at 4°C. For long term storage, aliquot and store at -70°C or below. Avoid repeated freeze-thaw cycles.

Additional Information

Gene ID	4151
Other Names	Myoglobin, Nitrite reductase MB, 1.7.-.-, Pseudoperoxidase MB, 1.11.1.-, MB (HGNC:6915)
Target Background	Myoglobin, a member of the globin family of proteins, is a cytosolic oxygen-binding protein that regulates the storage and diffusion of oxygen within myocytes. The largest expression of myoglobin is in skeletal and cardiac muscle. Myoglobin exhibits various functions in relation to the muscular oxygen supply, such as oxygen storage, facilitated diffusion, and myoglobin-mediated oxidative phosphorylation. Myoglobin is the primary oxygen-carrying pigment of muscle tissues. High concentrations of myoglobin in muscle cells allow organisms to hold their breath for a longer period of time. Diving mammals such as whales and seals have muscles with a particularly high abundance of myoglobin. Myoglobin is found in Type I, Type II A and Type II B muscle; however several studies indicate myoglobinis not found in smooth muscle.

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