



Human Myoglobin Polyclonal Antibody

Antigen Affinity-Purified Anti-Human Myoglobin Rabbit Antibody
Catalog Number: GR126058

Background

Myoglobin is an iron- and oxygen-binding protein found in the muscle tissue of vertebrates in general and in almost all mammals. It is related to hemoglobin, which is the iron- and oxygen-binding protein in blood, specifically in the red blood cells. In humans, myoglobin is only found in the bloodstream after muscle injury. It is an abnormal finding, and can be diagnostically relevant when found in blood. Myoglobin is the primary oxygen-carrying pigment of muscle tissues.^[1] 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 particularly high abundance of myoglobin. Myoglobin is found in Type I muscle, Type II A and Type II B, but most texts consider myoglobin not to be found in smooth muscle. Myoglobin is released from damaged muscle tissue (rhabdomyolysis), which has very high concentrations of myoglobin. The released myoglobin is filtered by the kidneys but is toxic to the renal tubular epithelium and so may cause acute renal failure.^[2] It is not the myoglobin itself that is toxic (it is a protoxin) but the ferrihemate portion that is dissociated from myoglobin in acidic environments (e.g., acidic urine, lysosomes). Myoglobin is a sensitive marker for muscle injury, making it a potential marker for heart attack in patients with chest pain.^[3] However, elevated myoglobin has low specificity for acute myocardial infarction (AMI) and thus CK-MB, cTnT, ECG, and clinical signs should be taken into account to make the diagnosis.

References

1. Ordway GA, Garry DJ (2004). *J. Exp. Biol.* **207** (Pt 20): 3441–6.
2. Naka T, et al. (2005). *Crit Care* **9** (2): R90–5.
3. Weber M, et al. (2005). *Clin. Biochem.* **38** (11): 1027–30.



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Description

Species reactivity: Human

Specificity: Detects human myoglobin in direct or indirect ELISAs and Western blots.

Source: Polyclonal rabbit IgG

Purification: Antigen Affinity purified

Immunogen: *E. coli* derived recombinant human myoglobin, Met1-Gly154

Accession # NP_005359.1.

Endotoxin Level: <0.10 EU per 1 µg of the antibody by the LAL method.

Formulation: lyophilized from a solution containing PBS and trehalose (100 µg/ml).

Application

Reconstitution: reconstitute at 0.2 mg/ml in sterile PBS

Recommended concentration:

Western blot: >0.1 µg/ml

Immunocytochemistry: 5-15 µg/ml

ELISA: 0.2-0.6 µg/ml

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months at -20°C as supplied.
- 1 month after reconstitution at 4 °C, from date of receipt.
- 6 months after reconstitution at -20°C to -70°C from date of receipt.

DECLARATION

THIS REAGENT IS FOR IN VITRO LABORATORY TESTING AND RESEARCH USE ONLY. DO NOT USE IT FOR CLINICAL DIAGNOSTICS. DO NOT USE OR INJECT IT IN HUMANS AND ANIMALS.

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