

Product Information

Monoclonal Anti-Glutathione Reductase Clone GR6

produced in mouse, purified immunoglobulin

Catalog Number **SAB4200182**

Product Description

Monoclonal Anti-Glutathione Reductase (mouse IgG1 isotype) is derived from the hybridoma GR6 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a human Glutathione reductase (GeneID: 2936) recombinant protein. The corresponding proteins in rat and mouse share 86% and 85% homology, respectively. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2. The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-Glutathione Reductase recognizes human glutathione reductase. The antibody may be used in several immunochemical techniques including immunoblotting (~55 kDa) and immunoprecipitation. Detection of the glutathione reductase band by immunoblotting is specifically inhibited by the immunizing protein.

Glutathione reductase (GR) is an ubiquitous flavoenzyme involved in protecting cells from stress. GR catalyzes the reduction of oxidized glutathione (GSSG) to glutathione (GSH). It is an essential component of the glutathione redox cycle, which maintains adequate levels of reduced cellular GSH. GSH serves as an antioxidant, reacting with free radicals and organic peroxides. Glutathione is also an electron donor for glutathione peroxidases and a substrate for glutathione-S-transferases contributing to the detoxification and elimination of toxic electrophilic metabolites and xenobiotics.^{1,2} Glutathione reductase is a homodimeric enzyme containing one FAD molecule and 1 NADPH binding domain per subunit.³ Both human GR (hGR) and *Plasmodium falciparum* GR (PfGR) are essential for the survival of the malaria parasite within human erythrocytes.⁴

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store at -20 °C. For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze at -20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 2-4 µg/mL is recommended using whole extracts of human HepG2 cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

1. Lopez-Mirabal, H.R., and Winther, J.R., *Biochim. Biophys. Acta*, **1783**, 629-640 (2008).
2. Qiao, M., et al., *Arterioscler. Thromb. Vasc. Biol.*, **27**, 1375-1382 (2007).
3. Worthington, D.J., and Rosemeyer, M.A., *Eur. J. Biochem.*, **67**, 231-238 (1976).
4. Zhang, Y., et al., *Biochem. Pharmacol.*, **37**, 861-865 (1988).

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