

Product Information

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Anti-Heme Oxygenase-1

produced in rabbit, IgG fraction of antiserum

Catalog Number **H4535**

Synonyms; Anti-HO-1; Anti-HSP32

Product Description

Anti-Heme Oxygenase-1 is produced in rabbit using as immunogen a synthetic peptide surrounding amino acids near the N-terminus of human HO-1. This amino acid sequence contains only two mismatches with the reported human and rat sequences.

Anti-Heme Oxygenase-1 recognizes recombinant heme oxygenase-1 by immunoblotting (~32 kDa). Jurkat cell lysate can be used as positive control. By immunohistochemistry (4% paraformaldehyde-fixed, frozen tissue), the antibody stains HO-1 in mouse brain tissue. It reacts with both mouse and rat tissues.

Heme oxygenase catalyzes the rate-limiting step in the oxidation of heme to biliverdin, an antioxidant; iron, a gene regulator; and carbon monoxide, a heme ligand.¹ Carbon monoxide may act as a biological second messenger which plays important roles in neuronal signaling and modulation of vascular tone.^{2,3} In addition, it has been proposed that carbon monoxide may act as a retrograde messenger during long term potentiation (LTP) as inhibitors of heme oxygenase block LTP.⁴ Carbon monoxide may also be involved in pathological conditions such as ischemia, endotoxic shock and excitotoxicity. Two forms of heme oxygenase have been identified, heme oxygenase-1 (also known as HSP32) and heme oxygenase-2. Heme oxygenase-1 (HO-1) and heme oxygenase-2 (HO-2) proteins are expressed from different gene products and have little in common regarding structure, regulation or tissue distribution.¹ HO-1 responds to a variety of stimuli known to induce oxidative stress, including heavy metals, endotoxins, inflammatory cytokines, prostaglandins and disease states. While the 32 kDa HO-1 protein is induced by stress⁵, HO-2 (34 kDa) is constitutively expressed.

Reagents

Supplied at 0.5 mg/mL in phosphate buffered saline (PBS) containing 30% glycerol, 0.5% BSA and 0.01% thimerosal.

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 product at -20 °C. Store in aliquots to avoid freeze/thaw cycles. Store undiluted.

Product Profile

Immunoblotting: 0.5-2 µg/ml is recommended.

Immunohistochemistry (IHC-Paraffin): 5 µg/ml is recommended.

Immunoprecipitation: 10-20 µg/ml is recommended.

Note: In order to obtain best results and assay sensitivities to different techniques and preparations, we recommend determining optimal working dilutions by titration.

References

1. Maines, M. S., *Annu. Rev. Pharmacol. Toxicol.*, **37**, 517-554 (1997).
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3. Lowenstein, C. J. and Snyder, S. H., *Cell*, **70**, 705-707 (1992).
4. Stevens, C. F. and Wang, Y., *Nature*, **364**, 147-149 (1993).
5. Ewing, J. F., et al., *J. Neurochem.*, **58**, 1140-1148 (1992).

GA,PHC 04/15-1