

Heme Oxygenase 1 (N-19): sc-7696

BACKGROUND

Heme oxygenases are microsomal enzymes that cleave heme to produce the antioxidant biliverdin, inorganic iron and carbon monoxide (CO). The activity of Heme Oxygenase 1 (HO-1), also designated HSP 32, is highly inducible in response to numerous stimuli, including heme, heavy metals, hormones and oxidative stress. Heme Oxygenase 2, in contrast, appears to be constitutively expressed in mammalian tissues. Heme Oxygenase 2 is involved in the production of carbon monoxide (CO) in brain, where CO is thought to act as a neurotransmitter. The CO signaling system closely parallels the signaling pathway involving nitric oxide, and regulation of the two systems is closely linked. Heme Oxygenase 3 is found in the spleen, liver, thymus, prostate, heart, kidney, brain and testis. A poor heme catalyst, Heme Oxygenase 3 has two heme regulatory motifs that may be involved in heme binding.

CHROMOSOMAL LOCATION

Genetic locus: HMOX1 (human) mapping to 22q12.3; Hmox1 (mouse) mapping to 8 C1.

SOURCE

Heme Oxygenase 1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Heme Oxygenase 1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7696 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

Heme Oxygenase 1 (N-19) is recommended for detection of Heme Oxygenase 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Heme Oxygenase 1 (N-19) is also recommended for detection of Heme Oxygenase 1 in additional species, including canine and bovine.

Suitable for use as control antibody for Heme Oxygenase 1 siRNA (h): sc-35554, Heme Oxygenase 1 siRNA (m): sc-35555, Heme Oxygenase 1 shRNA Plasmid (h): sc-35554-SH, Heme Oxygenase 1 shRNA Plasmid (m): sc-35555-SH, Heme Oxygenase 1 shRNA (h) Lentiviral Particles: sc-35554-V and Heme Oxygenase 1 shRNA (m) Lentiviral Particles: sc-35555-V.

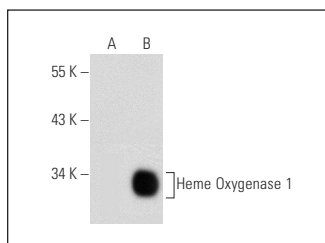
Molecular Weight of Heme Oxygenase 1: 32 kDa.

Positive Controls: Heme Oxygenase 1 (m): 293T Lysate: sc-120745, HeLa whole cell lysate: sc-2200 or rat spleen extract: sc-2397.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Heme Oxygenase 1 (N-19): sc-7696. Western blot analysis of Heme Oxygenase 1 expression in non-transfected: sc-117752 (A) and mouse Heme Oxygenase 1 transfected: sc-120745 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Maestrelli, P., et al. 2001. Increased expression of heme oxygenase (HO)-1 in alveolar spaces and HO-2 in alveolar walls of smokers. *Am. J. Respir. Crit. Care Med.* 164: 1508-1513.
2. Pae, H.O., et al. 2004. Carbon monoxide produced by Heme Oxygenase 1 suppresses T cell proliferation via inhibition of IL-2 production. *J. Immunol.* 172: 4744-4751.
3. Krajka-Kuzniak, V., et al. 2013. Xanthohumol induces phase II enzymes via Nrf2 in human hepatocytes *in vitro*. *Toxicol. In Vitro* 27: 149-156.
4. Hong, Y., et al. 2015. Hesperidin attenuates learning and memory deficits in APP/PS1 mice through activation of Akt/Nrf2 signaling and inhibition of RAGE/NFκB signaling. *Arch. Pharm. Res.* E-published.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.



Try **Heme Oxygenase 1 (A-3): sc-136960** or **Heme Oxygenase 1 (D-8): sc-136961**, our highly recommended monoclonal alternatives to Heme Oxygenase 1 (N-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Heme Oxygenase 1 (A-3): sc-136960**.