

Heme Oxygenase 1 (M-19): sc-1797

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; Hmx1 (mouse) mapping to 8 C1.

SOURCE

Heme Oxygenase 1 (M-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Heme Oxygenase 1 of rat 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-1797 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Heme Oxygenase 1 (M-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).

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: NIH/3T3 whole cell lysate: sc-2210, NIH/3T3 + heat shock cell lysate: sc-2217 or Heme Oxygenase 1 (m): 293T Lysate: sc-120745.

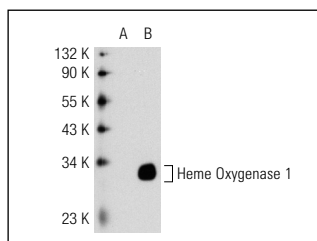
STORAGE

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

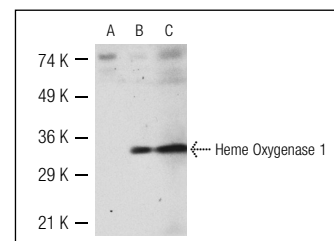
RESEARCH USE

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

DATA



Heme Oxygenase 1 (M-19): sc-1797. 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.



Heme Oxygenase 1 (M-19): sc-1797. Western blot analysis of Heme Oxygenase 1 expression in NIH/3T3 (A) and heat shock-treated NIH/3T3 (B) whole cell lysates and rat spleen tissue extract (C).

SELECT PRODUCT CITATIONS

- Hanselmann, C., et al. 2001. Haem oxygenase-1: a novel player in cutaneous wound repair and psoriasis? *Biochem. J.* 353: 459-466.
- Liu, S.H., et al. 2010. IL-13 downregulates PPAR-γ/heme oxygenase-1 via ER stress-stimulated calpain activation: aggravation of activated microglia death. *Cell. Mol. Life Sci.* 67: 1465-1476.
- Cheng, S.E., et al. 2010. Cigarette smoke particle-phase extract induces HO-1 expression in human tracheal smooth muscle cells: role of the c-Src/NADPH oxidase/MAPK/Nrf2 signaling pathway. *Free Radic. Biol. Med.* 48: 1410-1422.
- Shih, R.H., et al. 2010. Up-regulation of heme oxygenase-1 protects against cold injury-induced brain damage: a laboratory-based study. *J. Neurotrauma* 27: 1477-1487.
- Shih, R.H., et al. 2010. Cigarette smoke extract induces HO-1 expression in mouse cerebral vascular endothelial cells: involvement of c-Src/NADPH oxidase/PDGFR/JAK2/Stat3 pathway. *J. Cell. Physiol.* 225: 741-750.
- Shih, R.H., et al. 2010. Induction of heme oxygenase-1 attenuates lipopolysaccharide-induced cyclooxygenase-2 expression in mouse brain endothelial cells. *J. Neuroinflammation* 7: 86.
- Dreger, H., et al. 2010. Protection of vascular cells from oxidative stress by proteasome inhibition depends on Nrf2. *Cardiovasc. Res.* 85: 395-403.
- Tung, W.H., et al. 2011. Enterovirus 71 induces integrin β1/EGFR-Rac1-dependent oxidative stress in SK-N-SH cells: role of HO-1/CO in viral replication. *J. Cell. Physiol.* 226: 3316-3329.



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