

Heme Oxygenase 1 (C-20): sc-7695

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 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-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-7695 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Heme Oxygenase 1 (C-20) 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 (C-20) is also recommended for detection of Heme Oxygenase 1 in additional species, including equine, canine, bovine and porcine.

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.

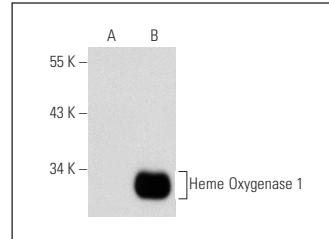
RESEARCH USE

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

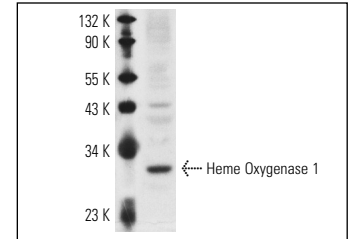
STORAGE

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

DATA



Heme Oxygenase 1 (C-20): sc-7695. 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 (C-20): sc-7695. Western blot analysis of Heme Oxygenase 1 expression in mouse spleen extract.

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.
- Ishikawa, K., et al. 2001. Heme oxygenase-1 inhibits atherogenesis in Watanabe heritable hyperlipidemic rabbits. *Circulation* 104: 1831-1836.
- Ali, F., et al. 2010. PPARδ and PGC1α act cooperatively to induce haem oxygenase-1 and enhance vascular endothelial cell resistance to stress. *Cardiovasc. Res.* 85: 701-710.
- Hirata, K., et al. 2010. Genetically engineered mannosylated-human serum albumin as a versatile carrier for liver-selective therapeutics. *J. Control. Release* 145: 9-16.
- Maruyama, A., et al. 2011. The novel NRF2-interacting factor KAP1 regulates susceptibility to oxidative stress by promoting the NRF2-mediated cytoprotective response. *Biochem. J.* 36: 387-397.
- Rousset, F., et al. 2013. Heme oxygenase-1 regulates matrix metalloproteinase MMP-1 secretion and chondrocyte cell death via Nox4 NADPH oxidase activity in chondrocytes. *PLoS ONE* 8: e66478.
- Su, Z.Y., et al. 2014. Requirement and epigenetics reprogramming of Nrf2 in suppression of tumor promoter TPA-induced mouse skin cell transformation by sulfuraphane. *Cancer Prev. Res.* 7: 319-329.
- Ray, P.D., et al. 2015. Coordinated regulation of Nrf2 and histone H3 serine 10 phosphorylation in arsenite-activated transcription of the human heme oxygenase-1 gene. *Biochim. Biophys. Acta* 1849: 1277-1288.


 MONOS
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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 (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Heme Oxygenase 1 (A-3): sc-136960**.