

Heme Oxygenase 1 (H-105): sc-10789

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 (H-105) is a rabbit polyclonal antibody raised against amino acids 184-288 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.

APPLICATIONS

Heme Oxygenase 1 (H-105) 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, rat spleen extract: sc-2397 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.

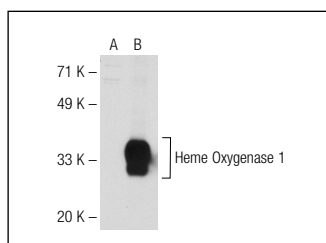
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

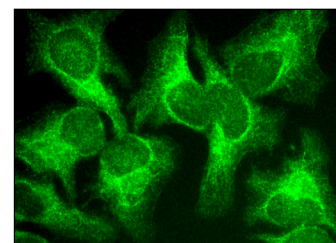
RESEARCH USE

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

DATA



Heme Oxygenase 1 (H-105): sc-10789. 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 (H-105): sc-10789. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Yuan, H.T., et al. 2003. Peritubular capillary loss after mouse acute nephrotoxicity correlates with down-regulation of vascular endothelial growth factor-A and hypoxia-inducible factor-1 α . *Am. J. Pathol.* 163: 2289-2301.
- Wondrak, G.T., et al. 2010. The cinnamon-derived dietary factor cinnamic aldehyde activates the Nrf2-dependent antioxidant response in human epithelial colon cells. *Molecules* 15: 3338-3355.
- Aggeli, I.K., et al. 2011. Insulin-induced oxidative stress up-regulates heme oxygenase-1 via diverse signaling cascades in the C2 skeletal myoblast cell line. *Endocrinology* 152: 1274-1283.
- Tang, X., et al. 2011. Luteolin inhibits Nrf2 leading to negative regulation of the Nrf2/ARE pathway and sensitization of human lung carcinoma A549 cells to therapeutic drugs. *Free Radic. Biol. Med.* 50: 1599-1609.
- Wang, J.S., et al. 2011. Celecoxib induces heme oxygenase-1 expression in macrophages and vascular smooth muscle cells via ROS-dependent signaling pathway. *Naunyn Schmiedebergs Arch. Pharmacol.* 383: 159-168.
- Chiu, P.Y, et al. 2012. Danshen-Gegen decoction protects against hypoxia/reoxygenation-induced apoptosis by inhibiting mitochondrial permeability transition via the redox-sensitive ERK/Nrf2 and PKC ϵ /mKATP pathways in H9c2 cardiomyocytes. *Phytomedicine* 19: 99-110.
- La Marca, M., et al. 2012. Structural influence of isothiocyanates on expression of cytochrome P450, phase II enzymes, and activation of Nrf2 in primary rat hepatocytes. *Food Chem. Toxicol.* 50: 2822-2830.



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 (H-105). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Heme Oxygenase 1 (A-3): sc-136960**.