

Heme Oxygenase 2 (C-20): sc-7697

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: HMOX2 (human) mapping to 16p13.3; Hmox2 (mouse) mapping to 16 A1.

SOURCE

Heme Oxygenase 2 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Heme Oxygenase 2 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.

Heme Oxygenase 2 (C-20) is available conjugated phycoerythrin (sc-7697 PE, 200 µg/ml), for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-7697 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Heme Oxygenase 2 (C-20) is recommended for detection of Heme Oxygenase 2 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Heme Oxygenase 2 (C-20) is also recommended for detection of Heme Oxygenase 2 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for Heme Oxygenase 2 siRNA (h): sc-35556, Heme Oxygenase 2 siRNA (m): sc-35557, Heme Oxygenase 2 shRNA Plasmid (h): sc-35556-SH, Heme Oxygenase 2 shRNA Plasmid (m): sc-35557-SH, Heme Oxygenase 2 shRNA (h) Lentiviral Particles: sc-35556-V and Heme Oxygenase 2 shRNA (m) Lentiviral Particles: sc-35557-V.

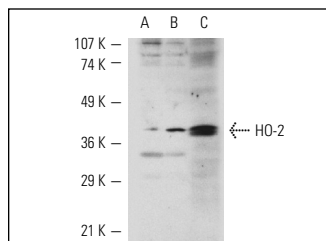
Molecular Weight of Heme Oxygenase 2: 36 kDa.

Positive Controls: rat spleen extract : sc-2397.

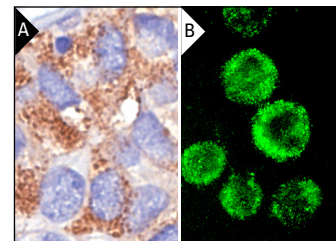
STORAGE

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

DATA



Heme Oxygenase 2 (C-20): sc-7697. Western blot analysis of Heme Oxygenase 2 expression in NIH/3T3 (A) and heat shock-treated NIH/3T3 (B) whole cell lysates and rat spleen tissue extract (C).



Heme Oxygenase 2 (C-20): sc-7697. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tumor (A) and immunofluorescence staining of methanol-fixed K-562 cells (B) showing cytoplasmic localization.

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. Maestrelli, P., et al. 2003. Decreased Haem Oxygenase 1 and increased inducible nitric oxide synthase in the lung of severe COPD patients. *Eur. Respir. J.* 21: 971-976.
3. Tian, J., et al. 2004. Effect of sex hormones on heme oxygenase expression in rat ventral prostate. *Sheng Li Xue Bao* 56: 54-59.
4. Atzori, L., et al. 2004. Effect of cigarette smoking on Haem Oxygenase expression in alveolar macrophages. *Respir. Med.* 98: 530-535.
5. Bajo-Grañeras, R., et al. 2011. Apolipoprotein D mediates autocrine protection of astrocytes and controls their reactivity level, contributing to the functional maintenance of paraquat-challenged dopaminergic systems. *Glia* 59: 1551-1566.

RESEARCH USE

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

PROTOCOLS

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

MONOS
Satisfaction
Guaranteed

Try **Heme Oxygenase 2 (B-3): sc-17786** or **Heme Oxygenase 2/3 (A-3): sc-166342**, our highly recommended monoclonal alternatives to Heme Oxygenase 2 (C-20).