

# Heme Oxygenase 2 (H-73): sc-11361

## 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.

## REFERENCES

1. Maines, M.D. 1988. Heme oxygenase: function, multiplicity, regulatory mechanisms, and clinical applications. *FASEB J.* 2: 2557-2568.
2. Rodgers, P.A., et al. 1990. Developmental biology of heme oxygenase. *Clin. Perinatol.* 17: 275-291.
3. Alam, J., et al. 1994. Isolation and characterization of the mouse Heme Oxygenase 1 gene. Distal 5' sequences are required for induction by heme or heavy metals. *J. Biol. Chem.* 269: 1001-1009.
4. Maines, M.D. 1997. The heme oxygenase system; a regulator of second messenger gases. *Annu. Rev. Pharmacol. Toxicol.* 37: 517-554.
5. Snyder, S.H., et al. 1998. Nitric oxide and carbon monoxide: parallel roles as neural messengers. *Brain Res. Brain Res. Rev.* 26: 167-175.
6. Motterlini, R., et al. 1998. Heme Oxygenase 1-derived carbon monoxide contributes to the suppression of acute hypertensive responses *in vivo*. *Circ. Res.* 83: 568-577.

## CHROMOSOMAL LOCATION

Genetic locus: HMOX2 (human) mapping to 16p13.3; Hmx2 (mouse) mapping to 16 A1.

## SOURCE

Heme Oxygenase 2 (H-73) is a rabbit polyclonal antibody raised against amino acids 239-311 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.

## 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.

## APPLICATIONS

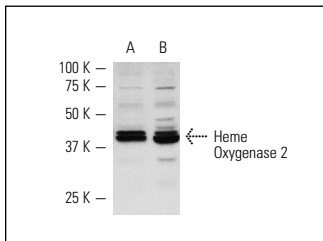
Heme Oxygenase 2 (H-73) is recommended for detection of Heme Oxygenase 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

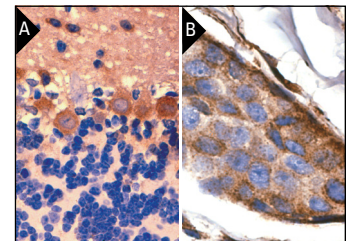
Molecular Weight of Heme Oxygenase 2: 36 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, RAW 264.7 whole cell lysate: sc-2211 or T98G cell lysate: sc-2294.

## DATA



Heme Oxygenase 2 (H-73): sc-11361. Western blot analysis of Heme Oxygenase 2 expression in K-562 (A) and T98G (B) whole cell lysates.



Heme Oxygenase 2 (H-73): sc-11361. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse brain tissue showing cytoplasmic localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tumor showing cytoplasmic staining (B).

## SELECT PRODUCT CITATIONS

1. Christie, A.E., et al. 2003. Immunocytochemical evidence for nitric oxide- and carbon monoxide-producing neurons in the stomatogastric nervous system of the crayfish *Cherax quadricarinatus*. *J. Comp. Neurol.* 467: 293-306.
2. Williams, S.E., et al. 2004. Hem Oxygenase 2 is an oxygen sensor for a calcium-sensitive potassium channel. *Science* 306: 2093-2097.
3. Hundahl, C.A., et al. 2010. Neuroglobin expression in the rat suprachiasmatic nucleus: colocalization, innervation, and response to light. *J. Comp. Neurol.* 518: 1556-1569.


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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 (H-73).