

Heme Oxygenase 2 (h2): 293T Lysate: sc-177338

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. and Stevenson, D.K. 1990. Developmental biology of Heme Oxygenase. *Clin. Perinatol.* 17: 275-291.
3. Alam, J., Cai, J. and Smith, A. 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. McCoubrey, W.K., Jr., Huang, T.J. and Maines, M.D. 1997. Isolation and characterization of a cDNA from the rat brain that encodes hemoprotein Heme Oxygenase 3. *Eur. J. Biochem.* 247: 725-732.
6. Snyder, S.H., Jaffrey, S.R. and Zakhary, R. 1998. Nitric oxide and carbon monoxide: parallel roles as neural messengers. *Brain Res. Brain Res. Rev.* 26: 167-175.
7. Motterlini, R., Gonzales, A., Foresti, R., Clark, J.E., Green, C.J. and Winslow, R.M. 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.

PRODUCT

Heme Oxygenase 2 (h2): 293T Lysate represents a lysate of human Heme Oxygenase 2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

APPLICATIONS

Heme Oxygenase 2 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive Heme Oxygenase 2 antibodies. Recommended use: 10-20 µl per lane.

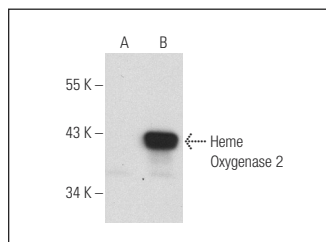
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Heme Oxygenase 2/3 (A-3): sc-166342 is recommended as a positive control antibody for Western Blot analysis of enhanced human Heme Oxygenase 2 expression in Heme Oxygenase 2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

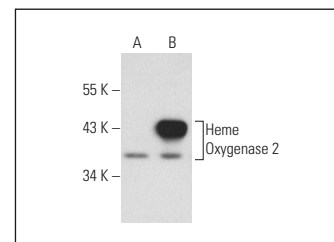
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Heme Oxygenase 2/3 (A-3): sc-166342. Western blot analysis of Heme Oxygenase 2 expression in non-transfected: sc-117752 (A) and human Heme Oxygenase 2 transfected: sc-177338 (B) 293T whole cell lysates.



Heme Oxygenase 2/3 (B-4): sc-166299. Western blot analysis of Heme Oxygenase 2 expression in non-transfected: sc-117752 (A) and human Heme Oxygenase 2 transfected: sc-177338 (B) 293T whole cell lysates.

PROTOCOLS

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