SANTA CRUZ BIOTECHNOLOGY, INC.

Heme Oxygenase 1 (m): 293T Lysate: sc-120745

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, multiplicty, 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., 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.
7. McCoubrey, W.K., Jr., et al. 1997. Isolation and characterization of a cDNA from the rat brain that encodes hemoprotein Heme Oxygenase 3. Eur. J. Biochem. 247: 725-732.

CHROMOSOMAL LOCATION

Genetic locus: Hmox1 (mouse) mapping to 8 C1.

PRODUCT

Heme Oxygenase 1 (m): 293T Lysate represents a lysate of mouse Heme Oxygenase 1 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.

PROTOCOLS

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

APPLICATIONS

Heme Oxygenase 1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Heme Oxygenase 1 antibodies. Recommended use: 10-20 µl per lane.

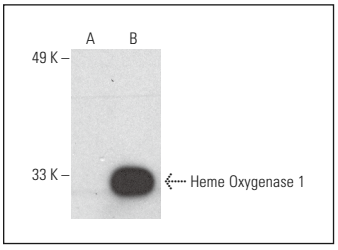
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Heme Oxygenase 1 (F-4) HRP: sc-390991 HRP is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Heme Oxygenase 1 expression in Heme Oxygenase 1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

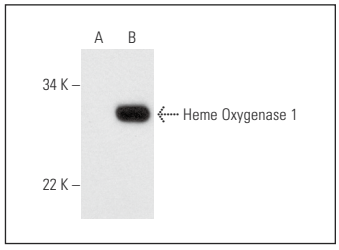
RECOMMENDED SUPPORT REAGENTS

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 1 (F-4) HRP: sc-390991 HRP. Direct 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 (F-4): sc-390991. 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.

RESEARCH USE

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