

Heme Oxygenase 2/3 (A-3): sc-166342

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

SOURCE

Heme Oxygenase 2/3 (A-3) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of Heme Oxygenase 2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Heme Oxygenase 2/3 (A-3) is available conjugated to agarose (sc-166342 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166342 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166342 PE), fluorescein (sc-166342 FITC), Alexa Fluor® 488 (sc-166342 AF488), Alexa Fluor® 546 (sc-166342 AF546), Alexa Fluor® 594 (sc-166342 AF594) or Alexa Fluor® 647 (sc-166342 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166342 AF680) or Alexa Fluor® 790 (sc-166342 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Heme Oxygenase 2/3 (A-3) is recommended for detection of Heme Oxygenase 2 of mouse, rat and human origin, and Heme Oxygenase 3 of mouse origin by Western Blotting (starting dilution 1:100, 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 shRNA Plasmid (h): sc-35556-SH and Heme Oxygenase 2 shRNA (h) Lentiviral Particles: sc-35556-V.

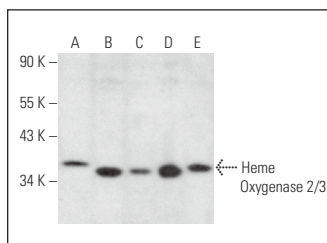
Molecular Weight of Heme Oxygenase 2/3: 36 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

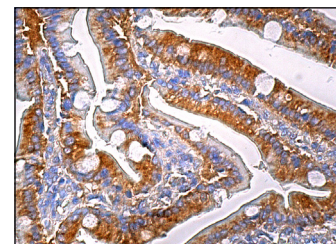
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Heme Oxygenase 2/3 (A-3): sc-166342. Western blot analysis of Heme Oxygenase 2/3 expression in K-562 (A), RAW 309 Cr.1 (B), NIH/3T3 (C), KNRK (D) and HeLa (E) whole cell lysates.



Heme Oxygenase 2/3 (A-3): sc-166342. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

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.