

# Heme Oxygenase 1 (A-3): sc-136960

## 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: HMOX1 (human) mapping to 22q12.3.

## SOURCE

Heme Oxygenase 1 (A-3) is a mouse monoclonal antibody raised against amino acids 184-288 of Heme Oxygenase 1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Heme Oxygenase 1 (A-3) is available conjugated to agarose (sc-136960 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-136960 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-136960 PE), fluorescein (sc-136960 FITC), Alexa Fluor® 488 (sc-136960 AF488), Alexa Fluor® 546 (sc-136960 AF546), Alexa Fluor® 594 (sc-136960 AF594) or Alexa Fluor® 647 (sc-136960 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-136960 AF680) or Alexa Fluor® 790 (sc-136960 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Heme Oxygenase 1 (A-3) is recommended for detection of Heme Oxygenase 1 of human 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 1 siRNA (h): sc-35554, Heme Oxygenase 1 shRNA Plasmid (h): sc-35554-SH and Heme Oxygenase 1 shRNA (h) Lentiviral Particles: sc-35554-V.

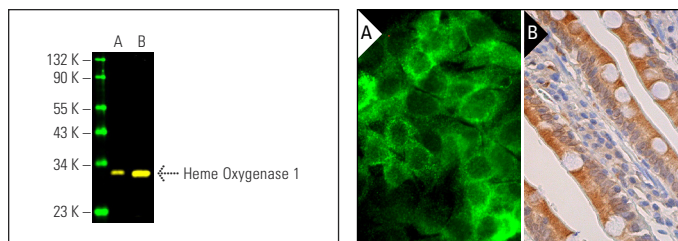
Molecular Weight of Heme Oxygenase 1: 32 kDa.

Positive Controls: RT-4 whole cell lysate: sc-364257, human spleen extract: sc-363779 or HeLa whole cell lysate: sc-2200.

## 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 1 (A-3) Alexa Fluor® 488: sc-136960 AF488. Direct fluorescent western blot analysis of Heme Oxygenase 1 expression in RT-4 whole cell lysate (A) and human spleen tissue extract (B). Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 680: sc-516730.

Heme Oxygenase 1 (A-3): sc-136960. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic and perinuclear staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

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- Dugmonits, K.N., et al. 2016. Elevated levels of macromolecular damage are correlated with increased nitric oxide synthase expression in erythrocytes isolated from twin neonates. *Br. J. Haematol.* 174: 932-941.
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- Oh, J.H., et al. 2019. Protective effect of 3,5-dicaffeoyl-epi-quinic acid against UVB-induced photoaging in human HaCaT keratinocytes. *Mol. Med. Rep.* 20: 763-770.
- Zhao, J., et al. 2020. Asiaticoside inhibits TGF-β1-induced mesothelial-mesenchymal transition and oxidative stress via the Nrf2/HO-1 signaling pathway in the human peritoneal mesothelial cell line HMrSV5. *Cell. Mol. Biol. Lett.* 25: 33.

## RESEARCH USE

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