

HO-1 monoclonal antibody (HO-1-2)

Heme Oxygenase-1 (HO-1) also known as Hsp32, is the inducible isoform of heme oxygenase that catalyzes the NADPH, oxygen, and cytochrome P450 reductase dependent oxidation of heme to carbon monoxide, ferrous iron and biliverdin which is rapidly reduced to bilirubin. These products of the HO reaction have important physiological effects: carbon monoxide is a potent vasodilator and has been implicated to be a physiological regulator of cGMP and vascular tone; biliverdin and its product bilirubin are potent antioxidants; "free" iron increases oxidative stress and regulates the expression of many mRNAs (e.g., DCT-1, ferritin and transferrin receptor) by affecting the conformation of iron regulatory protein (IRP)-1 and its binding to iron regulatory elements (IREs) in the 5'- or 3'- UTRs of the mRNAs. To date, three identified heme oxygenase isoforms are part of the HO system that catalyze heme into biliverdin and carbon monoxide. These are inducible HO-1 or Hsp32, constitutive HO-2 that is abundant in the brain and testis, and HO-3 which is related to HO-2 but is the product of a different gene. The HO system is the rate-limiting step in heme degradation and HO activity decreases the levels of heme which is a well known potent catalyst of lipid peroxidation and oxygen radical formation.

This antibody is covered by our [Worry-Free Guarantee](#).

Citations: 27

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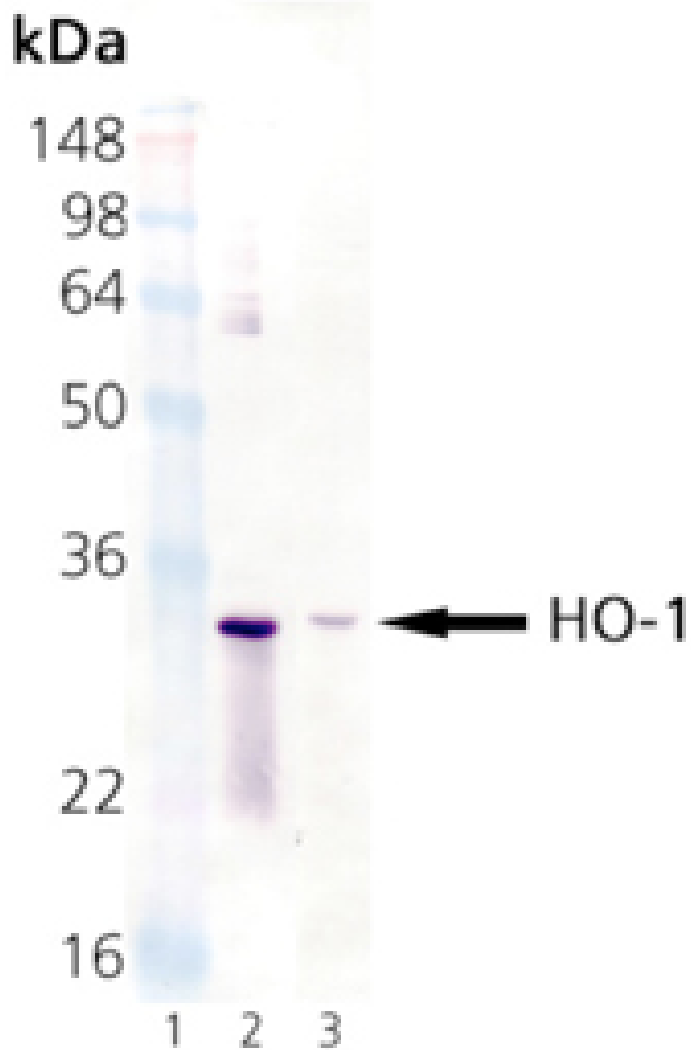
Ordering Information

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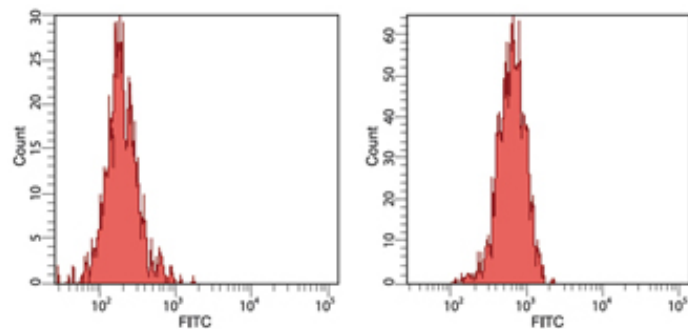
ADI-OSA-111-J	1mg
ADI-OSA-111-D	50µg
ADI-OSA-111-F	200µg

Manuals, SDS & CofA

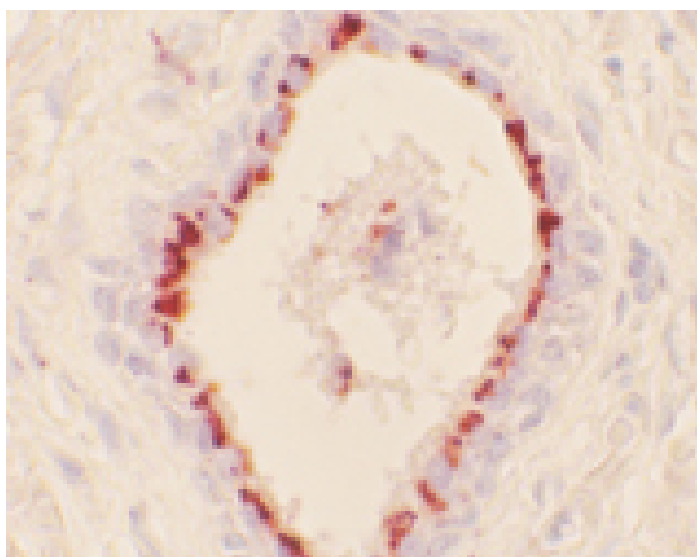
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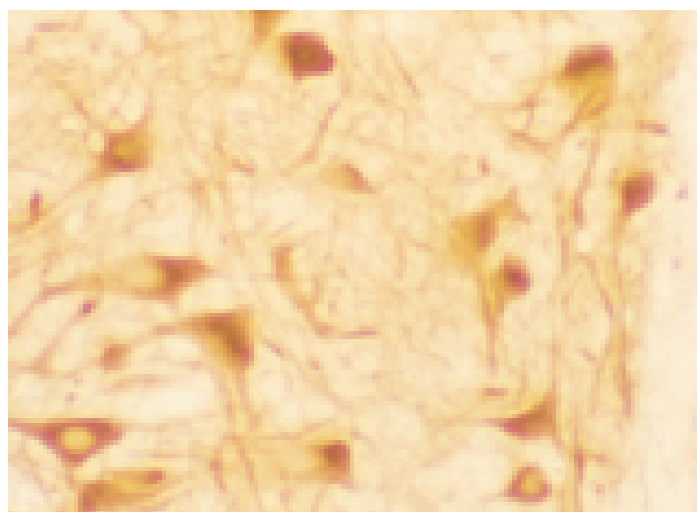
Western blot analysis: Lane 1: MW Marker, Lane 2: HO-1 Recombinant Rat Protein (Prod. No. ADI-SPP-730), Lane 3: Rat Liver Microsomes (Prod. No. ADI-LYT-RM100).



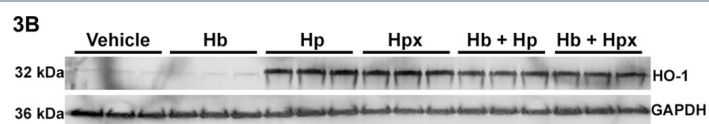
Flow cytometry analysis of human lung cancer A2 cells stained using isotype control antibody (left) and HO-1 (Hsp32) mAb (HO-1-2) (right).



Immunohistochemistry analysis of frozen human prostate section (stressed) stained using HO-1 (Hsp32) mAb (HO-1-2).



Immunohistochemistry analysis of frozen mouse spinal cord with HO-1, mAb (HO-1-2).



HO-1 is rapidly increased after haptoglobin and hemopexin infusion. (A and B) SS-mice (n = 3/group) were infused with vehicle or equimolar (1 $\mu\text{mol/kg}$) Hb, Hp, Hpx, Hb + Hp, or Hb + Hpx. Livers were removed and flash frozen 1 hour after infusion. Hepatic microsomes were used to assess heme oxygenase (HO) activity (A) via bilirubin production and protein expression (B) via immunoblot. Bars are means \pm SD, **p < .01 versus vehicle or Hb. (C and D) SS-mice (n = 3/group) were untreated or infused with Hp or Hpx (1 $\mu\text{mol/kg}$) at baseline (time 0). Livers were removed and flash frozen 24, 48 or 72 hours after infusion. Hepatic microsomes were used to assess (C) HO activity and (D) HO-1 protein expression via immunoblot. Bars are means \pm SD, *p < .05 and **p < .01 versus untreated SS-mice. (E and F) SS-mice (n = 3/group) were infused with vehicle or increasing doses (0.0156, 0.0625, 0.25 or 1.0 $\mu\text{mol/kg}$) of Hp or Hpx at baseline. Livers and kidneys were removed and flash frozen 24 hours after infusion. Hepatic (E) and kidney (F) microsomes were used to assess HO activity. Bars are means \pm SD.

Image collected and cropped by CiteAb under a CC-BY license from the following publication: Haptoglobin and hemopexin inhibit vaso-occlusion and inflammation in murine sickle cell disease: Role of heme oxygenase-1 induction. *PLoS One* (2018)

Handling & Storage

Long Term Storage -20°C

Shipping Blue Ice

Regulatory Status RUO - Research Use Only

Product Details

Alternative Name HMOX1, Hsp32, Heat shock protein 32, Heme oxygenase 1

Application Flow Cytometry, IHC, WB

Application Notes Detects a band of ~32kDa by Western blot.

Clone HO-1-2

Formulation Liquid. In PBS, pH 7.2, containing 50% glycerol and 0.09% sodium azide.

GenBank ID J02722

Host Mouse

Immunogen Native rat HO-1.

Isotype IgG2b

Purity Detail Protein G affinity purified.

Recommendation Flow Cytometry (1:100)Western Blot (1:1,000)Suggested dilutions/conditions may not
Dilutions/Conditions be available for all applications.Optimal conditions must be determined individually for each application.

Source Purified from ascites.

Species Reactivity Dog, Guinea pig, Hamster, Human, Monkey, Mouse, Porcine, Rabbit, Rat

UniProt ID P06762



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