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

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 transferring 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.

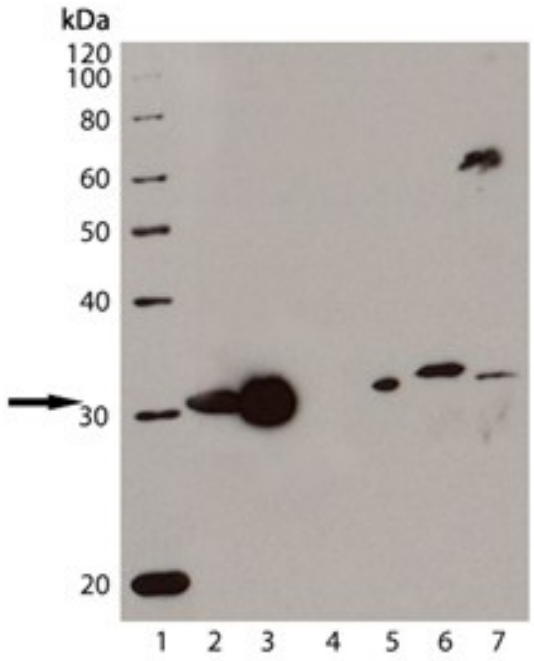
This antibody is covered by our Worry-Free Guarantee.

Citations: 83 View Online »

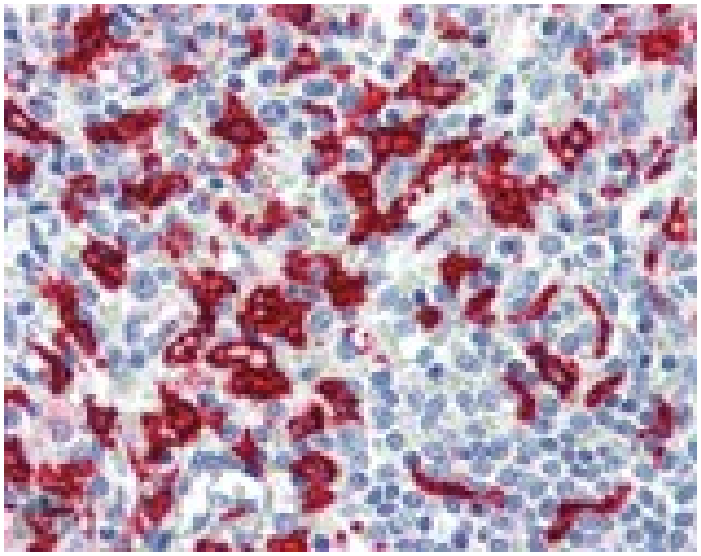
Ordering Information Order Online »

ADI-OSA-110-D	50µg
ADI-OSA-110-F	200µg

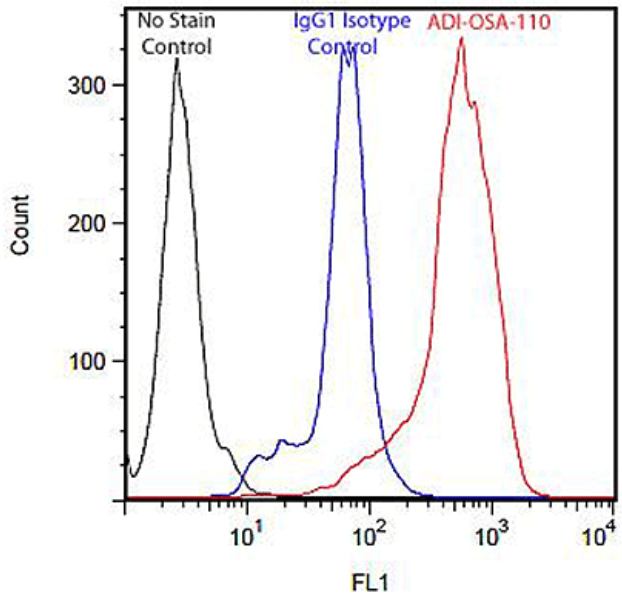
Manuals, SDS & CofA View Online »



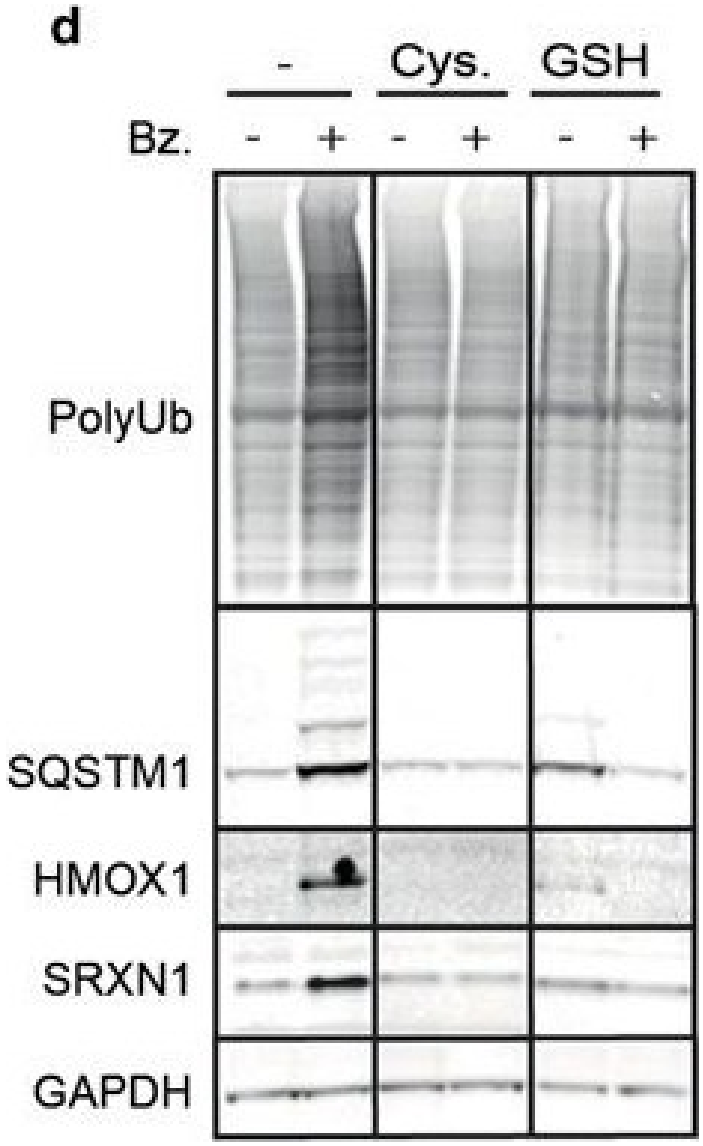
Western blot analysis of HO-1 (Hsp32), mAb (HO-1-1) (Prod. No. ADI-OSA-110): Lane 1: MW marker; Lane 2: HO-1 (rat), (recombinant) (Prod. No. ADI-SPP-730); Lane 3: HO-1 (human), (recombinant) (Prod. No. ADI-SPP-732); Lane 4: HO-2 (human), (recombinant) (Prod. No. ADI-SPP-550); Lane 5: MDBK cell lysate; Lane 6: Dog liver microsome; Lane 7: Mouse liver microsome.



Immunohistochemistry analysis of human spleen tissue stained with HO-1, mAb (HO-1-1) at 10µg/ml.



Flow cytometry analysis of 10^6 Jurkat cells stained using HO-1 monoclonal antibody (HO-1-1), (Prod. No. ADI-OSA-110), at a concentration of 50 µg/mL.



Cysteine and GSH attenuated bortezomib-induced transcriptional changes, protein ubiquitination and upregulation of redox-defense proteins. (a) INA-6 cells were grown in RPMI, diluted to 50% in HBSS and treated with 4 nm bortezomib (Bz), 1 mm GSH, or a combination of bortezomib and GSH for 4 h. RNA was collected and analyzed by Illumina Gene Expression assay. The heatmap displays genes differentially expressed after bortezomib treatment, and dampened by the combination (bz/DMSO<0.05 and bz/bz+GSH0.5 (upregulated genes) or >0.4 (downregulated genes) (see Supplementary Table S1). The experiment was performed in triplicates. (b, c) INA-6 cells were treated with 4 nm bortezomib with or without 1 mm cysteine (Cys) supplement for 4 h. RNA was collected and analyzed for mRNA levels of HMOX1 (b) or NQO1 (c) by qPCR. Data are mean and s.d. for triplicates in one representative experiment of at least three independent experiments. Asterisks indicate statistically significant changes compared with the control (two-way ANOVA, Turkey's multiple comparisons test, P<0.05). (d) INA-6 cells were treated for 24 h with 4 nm bortezomib in the presence of 1 mm cysteine or GSH. Cells were lysed and protein levels were analyzed by immunoblotting, as

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, ICC, IHC (PS), WB
Application Notes	Detects a band of ~32kDa by Western blot.
Clone	HO-1-1
Formulation	Liquid. In PBS containing 50% glycerol and 0.09% sodium azide.
GenBank ID	X14782
Gene/Protein Identifier	3162 (Entrez GeneID), 141250 (OMIM)
Host	Mouse
Immunogen	Synthetic peptide corresponding to the sequence near the N-terminus of human HO-1.
Isotype	IgG1κ
Purity Detail	Protein G affinity purified.
Recommendation Dilutions/Conditions	Flow Cytometry (10µg/ml)Western Blot (1:1,000 ECL)Suggested dilutions/conditions may not be available for all applications.Optimal conditions must be determined individually for each application.
Source	Purified from ascites.
Species Reactivity	Bovine, Dog, Human, Mouse, Rat

Technical Info / Product Notes	Recommended by the Human Protein Atlas Organization for IHC (Ensembl No. ENSG00000100292). **Cited samples:** *For an overview on cited samples please click here.*
UniProt ID	P09601
Worry-free Guarantee	**This antibody is covered by our Worry-Free Guarantee .**

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