

HO-1 (Hsp32) Polyclonal Antibody

Product Specifications

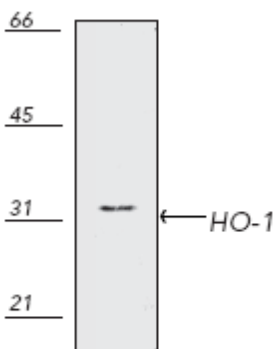
Catalog Number:	SPA-896
Source:	Rabbit
Species Reactivity:	Human, mouse, rat, canine, hamster, monkey, rabbit
Applications: <i>The optimal dilution for a specific application must be determined by the investigator</i>	WB ⁵⁻⁷ : 1:1000 (ECL) IP : 1:100 ⁸
Predicted m.w:	~32 kDa
Concentration:	See product label
Purification:	Protein A Affinity
Format:	PBS, pH 7.2, 0.09% azide, 50% glycerol
Storage: <i>Shipping conditions may differ from the recommended storage temperature</i>	Store at -20°C
Immunogen:	Synthetic peptide derived from sequence near the amino-terminus of human HO-1 (Hsp32) ⁴
Related Products:	
NEW! LYT-RM100	Rat Liver Microsome Extract
SAB-300	Goat anti-Rabbit IgG Polyclonal Antibody, HRP
EKS-800	HO-1 (Human) ELISA Kit
EKS-810	StressXpress HO-1 (Rat) ELISA Kit
OSA-110	HO-1 (Hsp32) Monoclonal Antibody (HO-1-1)
OSA-111	HO-1 (Hsp32) Monoclonal Antibody (HO-1-2)
SPA-894	HO-1 (Hsp32) Polyclonal Antibody
SPA-895	HO-1 (Hsp32) Polyclonal Antibody

Background:

Inducible heme oxygenase (HO, Hsp32) catalyzes the NADPH, O₂ and cytochrome P450 reductase dependent oxidation of heme to carbon monoxide, iron and biliverdin (immediately reduced to bilirubin). These products of the HO reaction render important physiological effects. Carbon monoxide becomes a potent vasodilator, biliverdin and its product bilirubin function as potent antioxidants, and '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-1 (IRP-1) and its binding to iron regulatory elements (IREs) in the 5'- or 3'-UTRs of the mRNAs. To date, researchers have identified heme oxygenase isoforms HO-1, HO-2 and HO-3. The mRNA and activity of HO-1/Hsp32, a ubiquitous major heat shock/stress response protein, can be increased several fold by heme, other metalloporphyrins, transition metals and stimuli that induce cellular stress. The 5'-untranslated region (UTR) of HO-1 contains several consensus regulatory elements which include sites for activator protein 1 (AP-1), metal responsive element (MRE), oncogene c-myc/max heterodimer binding site (Myc/Max), antioxidant response element (ARE) and GC box binding (Sp1)¹. HO-1 expression increases in benign prostatic hyperplasia (BPH) and malignant prostate tissue, suggesting a role for this stress protein in the pathogenesis of BPH and prostate cancer². Recent data demonstrates the ability of Peroxynitrite (ONOO-) to modulate HO-1 expression, suggesting that the heme oxygenase pathway contributes to protection against the cytotoxic action of ONOO-, a potent oxidizing agent generated by the interaction of nitric oxide (NO) and the superoxide anion. ONOO- rapidly decomposes to a highly reactive hydroxyl radical and nitrogen dioxide, both of which cause oxidative damage³.

References:

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2. Maines, M.D., *et al.* (1996) Urology **47**, 727-733.
3. Foresti, R., *et al.* (1999) Biochem J **339**, 729-736.
4. Yoshida, T., *et al.* (1988) Eur J Biochem. **171**, 457-461.
5. Brouard, S., *et al.* (2002) J Biol Chem **277**, 17950-17961.
6. Rothfuss, A., *et al.* (2001) Carcinogenesis **22**, 1979-1985.
7. Sato, K., *et al.* (2001) J Immunol **166**, 4185-4194.
8. Takahashi, M., *et al.* (2000) Neuron **28**, 461-473.



Western Blot analysis of rat microsomes, probed with HO-1 (Hsp32) Polyclonal Antibody

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