

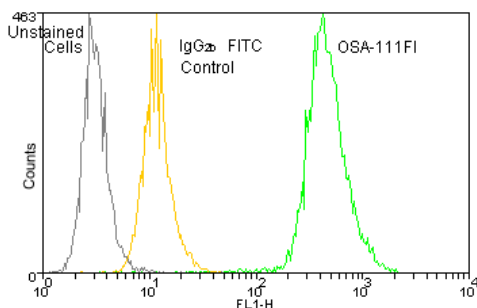
HO-1 (Hsp32) Monoclonal Antibody, Fluorescein Conjugate (HO-1-2)

New Conjugate Forms
Now Available!
DyLight™ 488 & PE

Product Specifications

Catalog Number:	OSA-111FI
Source:	Mouse
Isotype:	IgG _{2b}
Species Reactivity:	Human, mouse, rat, canine, guinea pig, hamster, and monkey Other species not tested.
Applications:	Flow: 100 µg/mL Other applications not tested. <i>The optimal dilution for a specific application must be determined by the investigator</i>
Predicted M.W.:	~32 kDa
Concentration:	See product label
Purification:	Protein G Affinity
Format:	PBS, pH 7.2, 0.09% azide
Storage:	4°C <i>Shipping conditions may differ from the recommended storage temperature</i>
Immunogen:	Native rat HO-1 (Hsp32) protein
Related Products:	
SPP-730	HO-1 (Hsp32) Recombinant Rat Protein
SPP-732	HO-1 (Hsp32) Recombinant Human Protein
NEW! OSA-111-488	HO-1 mAb (HO-1-2) DyLight™ 488 Conjugate
NEW! OSA-111PE	HO-1 mAb (HO-1-2) PE Conjugate
OSA-111B	HO-1 mAb (HO-1-2) Biotin Conjugate
OSA-111	HO-1 Mouse Monoclonal (HO-1-2)
EKS-800	HO-1 (Human) ELISA Kit
EKS-810A	HO-1 (Rat) ELISA Kit

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Flow Cytometry Analysis: 10⁶ Jurkat cells stained using HO-1 Monoclonal Antibody (HO-1-2), Fluorescein Conjugate (OSA-111FI) at a concentration of 100 µg/mL.

Background:

Heme oxygenase-1 (HO-1), the inducible isoform of heme oxygenase also known as 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 (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:

1. Elbirt, K.K. and Bonkovsky, H.L. (1999) Proc Assoc Am Physicians **111**, 438-447.
2. Maines, M.D. and Abrahamsson, P.A. (1996) Urology **47**, 727-733.
3. Foresti, R., et al. (1999) Biochem J. **339**, 729-736.

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