

## HO-1 (Hsp32) Monoclonal Antibody (HO-1-2), DyLight™ 488 Conjugate

### Product Specifications

<b>Catalog Number:</b>	OSA-111-488
<b>Host:</b>	Mouse
<b>Isotype:</b>	IgG <sub>2b</sub>
<b>Species Reactivity:</b>	human, mouse, rat, monkey, dog, guinea pig, hamster
<b>Applications:</b>	Flow Cytometry: 100 µg/mL <i>The optimal dilution for a specific application must be determined by the investigator</i>
<b>Concentration:</b>	See product label
<b>Purification:</b>	Protein G Affinity
<b>Format:</b>	PBS, pH 7.5, 0.09% sodium azide
<b>Storage:</b>	Store at -20°C <i>Shipping conditions may differ from the recommended storage temperature.</i>
<b>Immunogen:</b>	Native rat HO-1 protein

### Related Products:

SPP-732	HO-1 Recombinant Protein
OSA-111	HO-1 Monoclonal Antibody (HO-1-2)
OSA-111B	HO-1 Monoclonal Antibody (HO-1-2), Biotin Conjugate
OSA-110	HO-1 Monoclonal Antibody (HO-1-1)
SPA-895	HO-1 Polyclonal Antibody
SPA-896	HO-1 Polyclonal Antibody
EKS-800	human HO-1 ELISA
EKS-810A	rat HO-1 ELISA

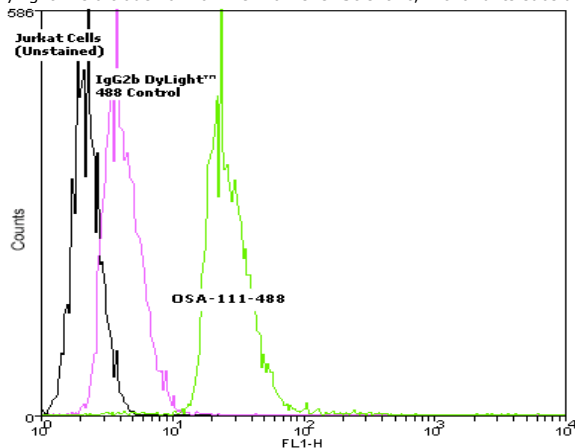
### Background:

Heme oxygenase-1 (HO-1) or HSP32 is the inducible isoform of heme oxygenase which catalyzes the NADPH, O<sub>2</sub> and cytochrome P450 reductase dependent oxidation of heme to carbon monoxide, iron and biliverdin that is immediately reduced to bilirubin. These products of the HO reaction have important physiological effects: carbon monoxide is a potent vasodilator; 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'-untranslated regions (UTRs) of the mRNAs. To date, three heme oxygenase isoforms HO-1, HO-2 and HO-3 have been identified. HO-1, also known as Hsp32, a major heat shock/stress response protein, is ubiquitous and its mRNA as well as its activity can be increased several-fold by heme, other metalloporphyrins, transition metals and stimuli that induce cellular stress. The 5'-UTR of HO-1 has 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)<sup>1</sup>. HO-1 expression has been shown to increase in benign prostatic hyperplasia (BPH) and malignant prostate tissue suggesting a role for this stress protein in the pathogenesis of BPH and prostate cancer<sup>2</sup>. There is recent data which indicates the ability of peroxynitrite (ONOO<sup>-</sup>) to modulate the expression of HO-1 and suggest that the heme oxygenase pathway contributes to protection against the cytotoxic action of ONOO<sup>-</sup> which is a potent oxidizing agent generated by the interaction of nitric oxide (NO) and the superoxide anion. ONOO<sup>-</sup> rapidly decomposes to a highly reactive hydroxyl radical and nitrogen dioxide, both of which cause oxidative damage<sup>3</sup>.

### References:

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

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Flow cytometry analysis of 10<sup>6</sup> Jurkat cells using HO-1 (Hsp32) Monoclonal Antibody (HO-1-2), DyLight™ 488 Conjugate at a concentration of 100 µg/mL.