

HO-1 (Hsp32) Monoclonal Antibody (HO-1-2), R-Phycoerythrin Conjugate

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Product Specifications

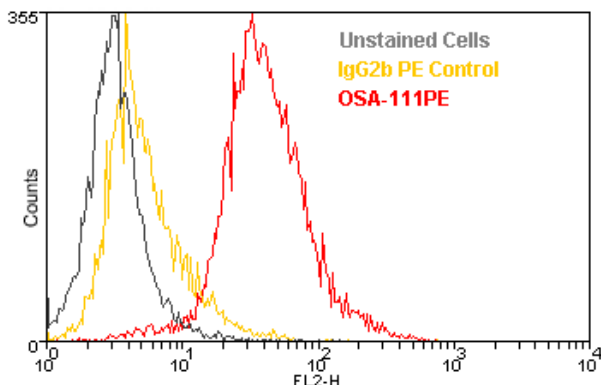
Catalog Number:	OSA-111PE																
Host:	Mouse																
Isotype:	IgG _{2b}																
Species Reactivity:	Human, mouse, rat, monkey, canine, guinea pig, hamster Other species not tested.																
Applications:	Flow: 1:100 Other applications not tested. <i>The optimal dilution for a specific application must be determined by the investigator.</i>																
Concentration:	See product label																
Purification:	Protein G Affinity																
Format:	PBS, pH 7.5, 0.09% sodium azide																
Storage:	4°C <i>Shipping conditions may differ from the recommended storage temperature.</i>																
Immunogen:	Native rat HO-1 protein																
Related Products:	<table border="0"> <tr> <td>SPP-732</td> <td>HO-1 Recombinant Protein</td> </tr> <tr> <td>OSA-111</td> <td>HO-1 Monoclonal Antibody (HO-1-2)</td> </tr> <tr> <td>OSA-111B</td> <td>HO-1 Monoclonal Antibody (HO-1-2) Biotin Conjugate</td> </tr> <tr> <td>OSA-110</td> <td>HO-1 Monoclonal Antibody (HO-1-1)</td> </tr> <tr> <td>SPA-895</td> <td>HO-1 Polyclonal Antibody</td> </tr> <tr> <td>SPA-896</td> <td>HO-1 Polyclonal Antibody</td> </tr> <tr> <td>EKS-800</td> <td>human HO-1 ELISA</td> </tr> <tr> <td>EKS-810A</td> <td>rat HO-1 ELISA</td> </tr> </table>	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
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Background:

Heme oxygenase-1 (HO-1) or HSP32 is the inducible isoform of heme oxygenase which catalyzes the NADPH, O₂ 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)¹. 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 cancer². There is recent data which indicates the ability of peroxynitrite (ONOO⁻) to modulate the expression of HO-1 and suggest that the heme oxygenase pathway contributes to protection against the cytotoxic action of ONOO⁻ which is 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., et al. (1999) Proc Assoc Am Phys. **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.



Flow Analysis: 10⁶ Jurkat cells stained using HO-1 (Hsp32) Monoclonal Antibody (HO-1-2), R-Phycoerythrin Conjugate at a concentration of 10 µg/mL.

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5777 Hines Drive • Ann Arbor, MI • 48108 | Tel: 800-833-8651 or 800-668-6113 | Fax: 734-668-2793
www.assaydesigns.com | orders@assaydesigns.com | technical@assaydesigns.com

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