10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

HO-1 Antibody
HO-1 Antibody, Clone 1F12-A6
Catalog # ASM10043

Specification

HO-1 Antibody - Product Information

Application	**IHC, WB**
Primary Accession	P09601
Other Accession	NP_002124.1
Host	**Mouse**
Isotype	**IgG1 Kappa**
Reactivity	**Human, Mouse, Rat, Rabbit, Hamster, Monkey, Pig, Bovine, Guinea Pig, Dog**
Clonality	**Monoclonal**
Format	**HRP**

Description
Mouse Anti-Human HO-1 Monoclonal IgG1 Kappa

Target/Specificity
Detects 32kDa. Does not cross-react with HO-2.

Other Names
HSP32 Antibody, HMOX1 Antibody, Heme oxygenase 1 Antibody, HO Antibody, HO1 Antibody

Immunogen
Human HO-1 synthetic peptide, amino acids 1-30

Purification
Protein G Purified

Storage	**-20ºC**

Storage Buffer
PBS pH7.4, 50% glycerol, 0.09% sodium azide

Shipping Temperature	**Blue Ice or 4ºC**

Certificate of Analysis
1 µg/ml was sufficient for detection of HO-1 in 10 µg of mixed human cell line lysate by colorimetric immunoblot analysis using Goat Anti-Mouse IgG:HRP as the secondary.

Cellular Localization
Microsome | Endoplasmic Reticulum

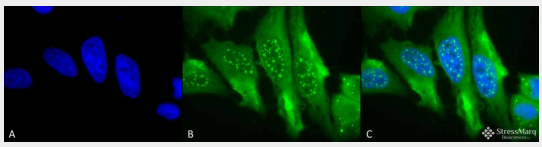
HO-1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

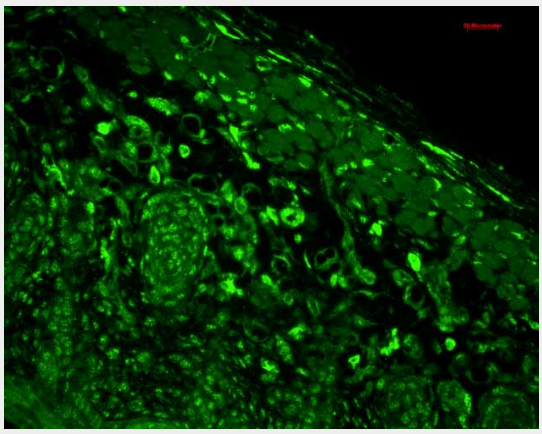
- Western Blot
- Blocking Peptides
- Dot Blot

- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

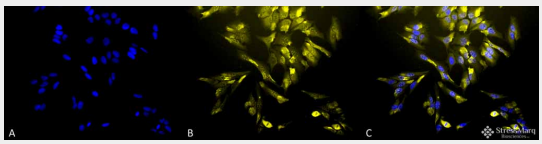
HO-1 Antibody - Images



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-HO-1 Monoclonal Antibody, Clone 1F12-A6 (ASM10043). Tissue: HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Mouse Anti-HO-1 Monoclonal Antibody (ASM10043) at 1:100 for 12 hours at 4°C. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Microsome. Endoplasmic reticulum. Localizes to the nucleus upon hypoxia. Magnification: 100x. (A) DAPI (blue) nuclear stain. (B) Anti-HO-1 Antibody. (C) Composite.



Immunohistochemistry analysis using Mouse Anti-HO-1 Monoclonal Antibody, Clone 1F12-A6 (ASM10043). Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-HO-1 Monoclonal Antibody (ASM10043) at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT. Localization: muscle, dermis, hair follicles, epidermis: nuclear everywhere and some cytoplasmic staining.



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-HO-1 Monoclonal Antibody, Clone 1F12-A6 (ASM10043). Tissue: HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Mouse Anti-HO-1 Monoclonal Antibody (ASM10043) at 1:100 for 12 hours at 4°C. Secondary Antibody: R-PE Goat Anti-Mouse (yellow) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Microsome. Endoplasmic reticulum. Localizes to the nucleus upon hypoxia. Magnification: 20x. (A) DAPI (blue) nuclear stain. (B) Anti-HO-1 Antibody. (C) Composite.

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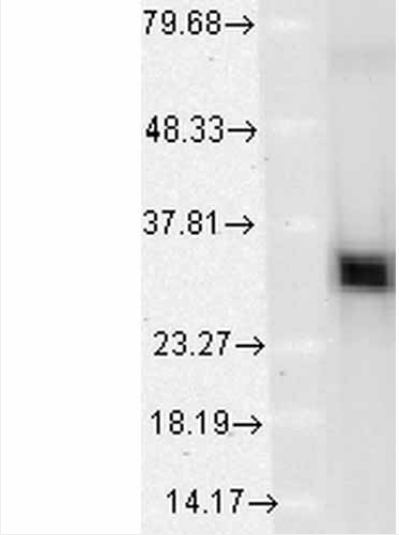
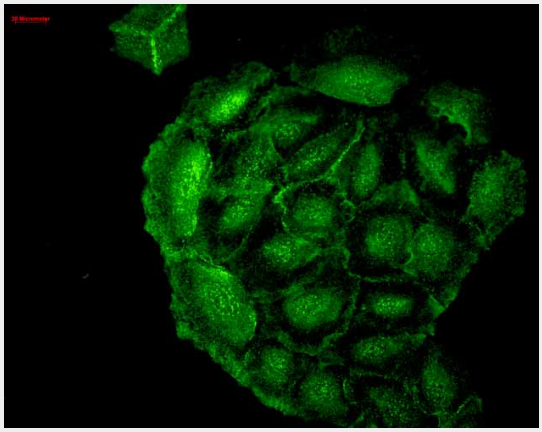


Western Blot analysis of Human HeLa cell lysates showing detection of HO-1 protein using Mouse Anti-HO-1 Monoclonal Antibody, Clone 1F12-A6 (ASM10043). Load: 15 µg. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-HO-1 Monoclonal Antibody (ASM10043) at 1:1000 for 2 hours at RT. Secondary Antibody: Sheep Anti-Mouse IgG: HRP for 1 hour at RT.



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-HO-1 Monoclonal Antibody, Clone 1F12-A6 (ASM10043). Tissue: HaCaT cells. Species: Human. Fixation: Cold 100% methanol for 10 minutes at -20°C. Primary Antibody: Mouse Anti-HO-1 Monoclonal Antibody (ASM10043) at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT. Localization: Cell-cell border staining in epidermis, punctuate nuclear staining. .

HO-1 Antibody - Background

Heme-oxygenase is a ubiquitous enzyme that catalyzes the initial and rate-limiting steps in heme catabolism yielding equimolar amounts of biliverdin, iron and carbon monoxide. Biliverdin is subsequently converted to bilirubin and the free iron is sequestered to ferritin (1). These products have important physiological effects as carbon monoxide is a potent vasodilator; biliverdin and bilirubin are potent antioxidants; and the free iron increases oxidative stress and regulates the expression of many mRNAs (2).
There are three isoforms of heme-oxygenase, HO-1, HO-2 and HO-3; however HO-1 and HO-2 are the major isoforms as they both have been identified in mammals (3). HO-1, also known as heat shock protein 32, is an inducible isoform activated by most oxidative stress inducers, cytokines, inflammatory agents and heat shock. HO-2 is a constitutive isoform which is expressed under homeostatic conditions. HO-1 is also considered to be a cytoprotective factor in that free heme is highly reactive and cytotoxic, and secondly, carbon monoxide is a mediator inhibiting the inflammatory process and bilirubin is a scavenger for reactive oxygen, both of which are the end

products of heme catalyzation (4). It has also been shown that HO-1 deficiency may cause reduced stress defense, a pro-inflammatory tendency (5), susceptibility to atherosclerotic lesion formation (6), endothelial cell injury, and growth retardation (7). Up-regulation of HO-1 is therefore said to be one of the major defense mechanisms of oxidative stress (4).

HO-1 Antibody - References

1. Froh M. et al. (2007) World J. Gastroentereol 13(25): 3478-86.
2. Elbirt K.K. and Bonkovsky H.L. (1999) Proc Assoc Am Physicians 111(5): 348-47.
3. Maines M.D., Trakshel G.M., and Kutty R.K. (1986) J Biol Chem 261: 411–419.
4. Brydun A., et al. (2007) Hypertens Res 30(4): 341-8.
5. Poss K.D. and Tonegawa S. (1997). Proc Natl Acad Sci U S A. 94: 10925–10930.
6. Yet S.F., et al. (2003) FASEB J. 17: 1759–1761.
7. Yachie A., et al. (1999) J Clin Invest. 103: 129–135.