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

# HO-1 Antibody
**Catalog # ASM10370**

## Specification

### HO-1 Antibody - Product Information

| | |
|---|---|
| Application | **WB, IHC, ICC** |
| Primary Accession | P09601 |
| Other Accession | NP_002124.1 |
| Host | **Rabbit** |
| Reactivity | **Human, Mouse, Rat, Dog** |
| Clonality | **Polyclonal** |

**Description**
Rabbit Anti-Human HO-1 Polyclonal

**Target/Specificity**
Detects ~32kDa.

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

**Immunogen**
Human heme-oxygenase (HO-1) synthetic multiple antigenic peptide

**Purification**
Protein A 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 of SPC-112 was sufficient for detection of HO-1 in 10 µg of heat shocked HeLa cell lysate by colorimetric immunoblot analysis using Goat anti-rabbit IgG:HRP as the secondary antibody.

**Cellular Localization**
Endoplasmic Reticulum | Microsome

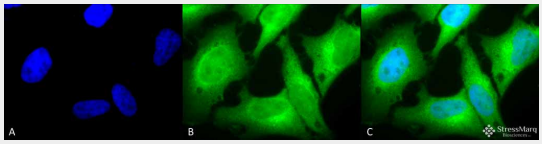
### HO-1 Antibody - Protocols

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

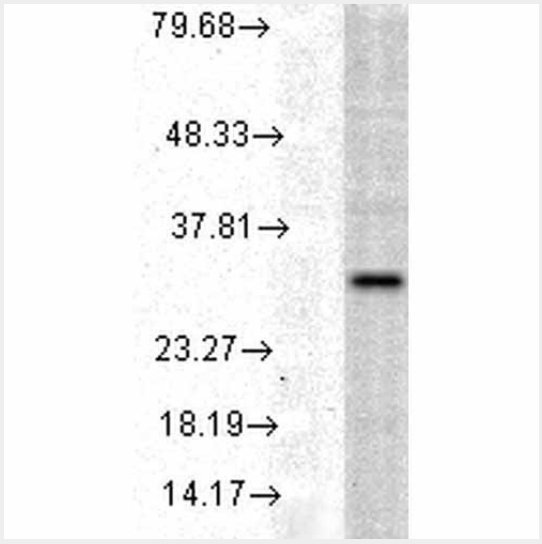
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation

- Flow Cytomety
- Cell Culture

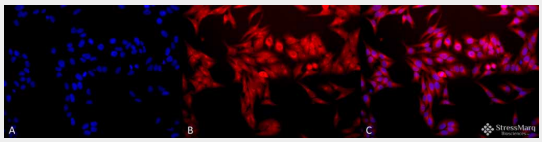
**HO-1 Antibody - Images**



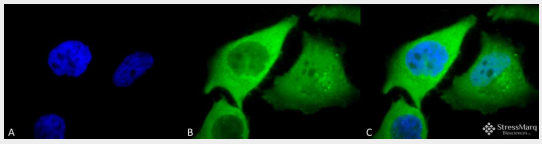
Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-HO-1 Polyclonal Antibody (ASM10370). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-HO-1 Polyclonal Antibody (ASM10370) at 1:100 for 12 hours at 4°C. Secondary Antibody: FITC Goat Anti-Rabbit (green) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Endoplasmic reticulum membrane. Cytoplasm. Magnification: 100x. Heat Shocked at 42°C for 1h.




Western blot analysis of Human Cell line lysates showing detection of HO-1 protein using Rabbit Anti-HO-1 Polyclonal Antibody (ASM10370). Load: 15 µg protein. Block: 1.5% BSA. Primary Antibody: Rabbit Anti-HO-1 Polyclonal Antibody (ASM10370) at 1:1000 for 2 hours at RT. Secondary Antibody: Donkey Anti-Rabbit IgG: HRP for 1 hour at RT.



Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-HO-1 Polyclonal Antibody (ASM10370). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-HO-1 Polyclonal Antibody (ASM10370) at 1:100 for 12 hours at 4°C. Secondary Antibody: APC Goat Anti-Rabbit (red) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Endoplasmic reticulum membrane. Cytoplasm. Magnification: 20x. (A) DAPI (blue) nuclear stain. (B) Anti-HO-1 Antibody. (C) Composite. Heat Shocked at 42°C for 1h.



Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-HO-1 Polyclonal Antibody (ASM10370). Tissue: HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-HO-1 Polyclonal Antibody (ASM10370) at 1:120 for 12 hours at 4°C. Secondary Antibody: FITC Goat Anti-Rabbit (green) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Endoplasmic reticulum membrane. Cytoplasm. Magnification: 100x. (A) DAPI (blue) nuclear stain. (B) Anti-HO-1 Antibody. (C) Composite.

**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.