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HO-1 (Rat) Antibody
HO-1 (Rat) Antibody, Clone 6B8-2F2
Catalog # ASM10162

Specification

HO-1 (Rat) Antibody - Product Information

Application	**ICC/IF, WB**
Primary Accession	P06762
Other Accession	NP_036712.1
Host	**Mouse**
Isotype	**IgG1 Kappa**
Reactivity	**Human, Mouse, Rat**
Clonality	**Monoclonal**

Description
Mouse Anti-Rat 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
His-tagged Rat HO-1

Purification
Protein G Purified

Storage	**-20ºC**

Storage Buffer
PBS, 50% glycerol, 0.1% sodium azide

Shipping Temperature	**Blue Ice or 4ºC**

Certificate of Analysis
1 µg/ml of SMC-234 was sufficient for detection of HO-1 in 10 µg of rat kidney lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

Cellular Localization
Microsome | Endoplasmic Reticulum

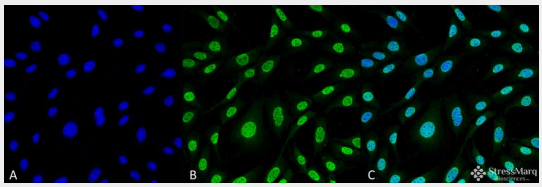
HO-1 (Rat) Antibody - Protocols

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

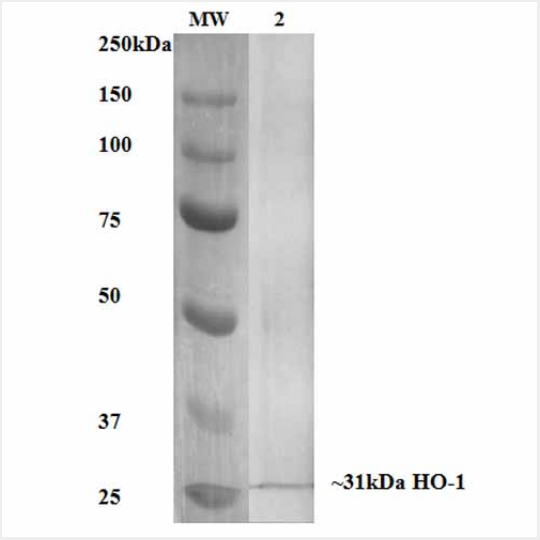
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence

- Immunoprecipitation
- Flow Cytomety
- Cell Culture

HO-1 (Rat) Antibody - Images



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-HO-1 (Rat) Monoclonal Antibody, Clone 6B8-2F2 (ASM10162). Tissue: Fibroblast cell line (NIH 3T3). Species: Mouse. Fixation: 4% Formaldehyde for 15 min at RT. Primary Antibody: Mouse Anti-HO-1 (Rat) Monoclonal Antibody (ASM10162) at 1:100 for 60 min at RT. Secondary Antibody: Goat Anti-Mouse ATTO 488 at 1:100 for 60 min at RT. Counterstain: DAPI (blue) nuclear stain at 1:5000 for 5 min RT. Localization: Nucleus, Cytoplasm. Magnification: 60X.



Western Blot analysis of Human, Mouse, Rat Rat Kidney Lysate showing detection of ~31 kDa HO-1 protein using Mouse Anti-HO-1 Monoclonal Antibody, Clone 6B8-2F2 (ASM10162). Lane 1: MW Ladder. Lane 2: Rat Kidney Lysate. Block: 5% milk + TBST for 1 hour at RT. Primary Antibody: Mouse Anti-HO-1 Monoclonal Antibody (ASM10162) at 1:1000 for 1 hour at RT. Secondary Antibody: HRP Goat Anti-Mouse at 1:50 for 1 hour at RT. Color Development: TMB solution for 5 min at RT. Predicted/Observed Size: ~31 kDa.

HO-1 (Rat) 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 (Rat) 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.