Datasheet for ABIN361697

anti-HMOX1 antibody (AA 1-30)

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Overview

Quantity:	100 µg
Target:	HMOX1
Binding Specificity:	AA 1-30
Reactivity:	Human
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This HMOX1 antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), Immunoprecipitation (IP), ELISA, Immunocytochemistry (ICC), Immunofluorescence (IF)

Product Details

Immunogen:	Human HO-1 synthetic peptide, amino acids 1-30
Clone:	1F12-A6
Isotype:	IgG1 kappa
Specificity:	Detects 32 kDa. Does not cross-react with HO-2.
Cross-Reactivity:	Cow, Dog, Guinea Pig, Hamster, Human, Monkey, Mouse, Pig, Rabbit, Rat
Purification:	Protein G Purified

Target Details

Target:	HMOX1

Target Details

Alternative Name:	HO-1 (HMOX1 Products)
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).
Gene ID:	3162
NCBI Accession:	NP_002124
UniProt:	P09601
Pathways:	Transition Metal Ion Homeostasis, Regulation of Leukocyte Mediated Immunity, Positive Regulation of Immune Effector Process, Production of Molecular Mediator of Immune Response, SARS-CoV-2 Protein Interactome

Application Details

Application Notes:	• WB (1:1000) • IHC (1:100) • ICC/IF (1:100) • optimal dilutions for assays should be determined by the user.
Comment:	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.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	1 mg/mL
Buffer:	PBS pH 7.4, 50 % glycerol, 0.09 % sodium azide, Storage buffer may change when conjugated
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C
Storage Comment:	-20°C

Publications

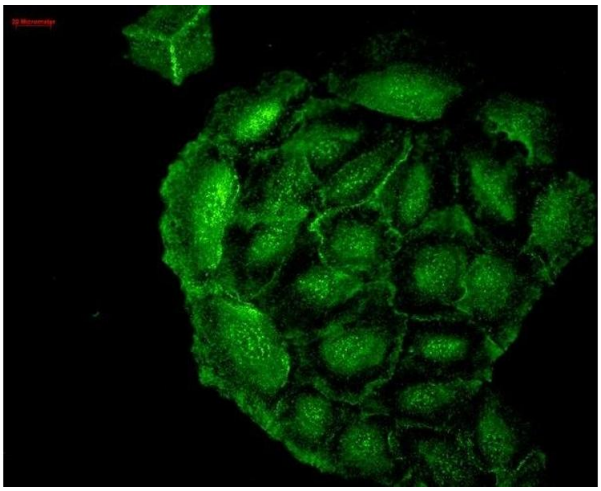
Product cited in:

Wang, Zhang, Xia, Zhang, Chen, Yang: "Protective effect of silencing Stat1 on high glucose-induced podocytes injury via Forkhead transcription factor O1-regulated the oxidative stress response." in: **BMC molecular and cell biology**, Vol. 20, Issue 1, pp. 27, (2020) (PubMed).

Kanzaki, Shinohara, Itohiya-Kasuya, Ishikawa, Nakamura: "Nrf2 activation attenuates both orthodontic tooth movement and relapse." in: **Journal of dental research**, Vol. 94, Issue 6, pp. 787-94, (2015) (PubMed).

Kanzaki, Shinohara, Kajiya, Fukaya, Miyamoto, Nakamura: "Nuclear Nrf2 induction by protein transduction attenuates osteoclastogenesis." in: **Free radical biology & medicine**, Vol. 77, pp. 239-48, (2014) (PubMed).

Al-Rifai, Rücker, Amslinger: "Opening or closing the lock? When reactivity is the key to biological activity." in: **Chemistry (Weinheim an der Bergstrasse, Germany)**, Vol. 19, Issue 45, pp. 15384-95, (2013) (PubMed).



Immunocytochemistry

Image 1. Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-HO-1 Monoclonal Antibody, Clone 1F12-A6 (ABIN361696 and ABIN361697). Tissue: HaCaT cells. Species: Human. Fixation: Cold 100 % methanol for 10 minutes at -20 °C. Primary Antibody: Mouse Anti-HO-1 Monoclonal Antibody (ABIN361696 and ABIN361697) 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. .

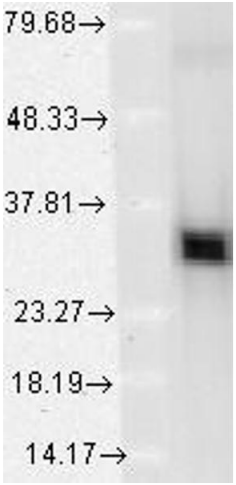
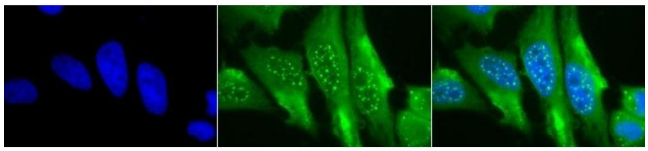


Image 2. HO 1 (1F12 A6), recombinant HO 1.



Immunocytochemistry

Image 3. Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-HO-1 Monoclonal Antibody, Clone 1F12-A6 (ABIN361696 and ABIN361697). Tissue: Cervical cancer cell line (HeLa). Species: Human. Fixation: 2 % Formaldehyde for 20 min at RT. Primary Antibody: Mouse Anti-HO-1 Monoclonal Antibody (ABIN361696 and ABIN361697) 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-

Images

HO-1 Antibody. (C) Composite.

Please check the product details page for more images. Overall 5 images are available for ABIN361697.