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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

StressXpress®
HO-1 ELISA Kit

Colorimetric detection of heme oxygenase 1
Catalog No. SKT-111



Discovery through partnership | Excellence through quality

Overview

Product Name

HO-1 ELISA Kit

Description

Colorimetric detection of heme oxygenase 1

Species Reactivity

Human

Platform

Microplate

Sample Types

Cell lysates, Serum, Tissue

Detection Method

Colorimetric Assay

Assay Type

Sandwich ELISA (Enzyme-linked Immunosorbent Assay)

Utility

ELISA kit used to quantitate HO-1 concentration in samples.

Sensitivity

0.21 ng/ml

Assay Range

0.781 - 50 ng/mL

Incubation Time

30 minutes

Number Of Samples

40 samples in duplicate

Other Resources

Kit Booklet, MSDS

Properties

Storage Temperature

4°C

Shipping Temperature

Blue Ice

Product Type

ELISA Kits

Assay Overview

1. Prepare Standard and samples in Standard and Sample Diluent.
 2. Add 50 µL of Pre-Treatment Buffer to all sample and standard wells.
 3. Add 50 µL of Standard and sample to appropriate wells.
 4. Cover plate with Plate Sealer and incubate at room temperature (20-25°C) for 2 hours.
 5. Wash plate four times with 1X Wash Buffer.
 6. Add 100 µL of Biotinylated Antibody Working Solution to each well.
 7. Cover plate with Plate Sealer and incubate at room temperature for 1 hour.
 8. Wash plate four times with 1X Wash Buffer as described in step 5.
 9. Add 100 µL of Streptavidin-HRP Working Solution to each well.
 10. Cover plate with Plate Sealer and incubate at room temperature for 30 minutes.
 11. Wash plate four times with 1X Wash Buffer as described in step 5.
 12. Add 100 µL of TMB Substrate to each well.
 13. Develop the plate in the dark at room temperature for 30 minutes.
 14. Stop reaction by adding 100 µL of Stop Solution to each well.
 15. Measure absorbance on a plate reader at 450 nm.
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Kit Components

Component No.**Item****Quantity / Size**

SKC-111A

Anti-HO-1 Immunoassay Plate

1 Plate

SKC-111B

5X HO-1 Extraction Reagent

1 vial/10 ml

SKC-111C

Recombinant HO-1 Standard

2 vials

SKC-111D

Standard and Sample Diluent

1 vial/ 50 ml

SKC-111E

10X Wash Buffer Concentrate

1 vial/100 ml

SKC-111F

Anti-HO-1 Biotinylated Antibody Concentrate

1 vial/150 µl

SKC-111G

Anti-HO-1 Biotinylated Antibody Diluent

1 vial/ 13 ml

SKC-111H

Streptavidin: HRP Concentrate

1 vial/150 µl

SKC-111I

Streptavidin: HRP Diluent

1 vial/ 13 ml

SKC-111J

TMB Substrate

1 vial/ 13 ml

SKC-111K

Stop Solution

1 vial/ 13 ml

SKC-111L

Pre-treatment Buffer

1 vial/ 13 ml

Cite This Product

HO-1 ELISA Kit (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SKT-111)

Biological Description

Alternative Names

Heme oxygenase 1 ELISA Kit, Hemox ELISA Kit, HMOX1 ELISA Kit, HO1 ELISA Kit, HO 1 ELISA Kit, HSP32 ELISA Kit

Research Areas

Cancer, Oxidative Stress

Scientific 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

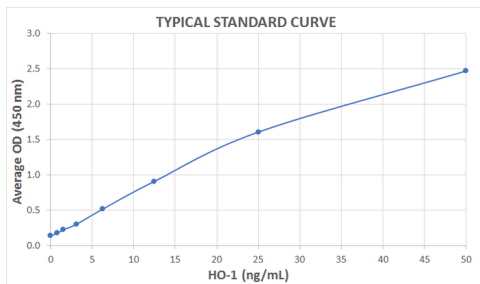
secondly, carbon monoxide is a mediator inhibiting the inflammatory process and bilirubin is a scavenger for reactive oxygen, both of which are the end products of heme catalyzation (4). It has also been shown that HO-1 deficiency may cause reduced stress defense, a pro-inflammatory tendency (5), susceptibility 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).

References

1. Froh M. et al. (2007) World J. Gastroenterol 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.

Product Images

Typical Standard Curve for the HO-1 ELISA Kit (Enzyme-Linked Immunosorbent Assay) StressXpress® – SKT-111. Assay Type: Sandwich ELISA. Detection Method: Colorimetric Assay. Assay Range: 0.781 – 50 ng/mL.



Product Citations (0)

Currently there are no citations for this product.

Reviews

There are no reviews yet.