

APA584Hu61 50µg

Active Heme Oxygenase 1 (HO1)

Organism Species: *Homo sapiens* (Human)

Instruction manual

FOR RESEARCH USE ONLY

NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Eukaryotic expression.

Host: CHO

Residues: Met1~Ala265

Tags: N-terminal His-tag

Purity: >90%

Endotoxin Level: <1.0EU per 1µg (determined by the LAL method).

Buffer Formulation: PBS, pH7.4, containing 5% Trehalose .

Original Concentration: 200µg/mL

Applications: Activity Assays.

(May be suitable for use in other assays to be determined by the end user.)

Predicted isoelectric point: 7.9

Predicted Molecular Mass: 31.9kDa

Accurate Molecular Mass: 35kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.

Store at 2-8°C for one month.

Aliquot and store at -80°C for 12 months.

Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the

protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

MERPQPDSMPQDLSEALKEATKEVHTQAENAEFMRNFQKGQVTRDGFKLVMASLYHIY
VALEEEIERNKESPVFAPVYFPEELHRKAALEQDLAFWYGPRWQEVIPYTPAMQRYVKRL
HEVGRTEPELLVAHAYTRYLGDLSGGQVLKKIAQKALDLPSSGEGLAFFTFPNIASATKFKQ
LYSRMNSLEMTPAVRQRVIEEAKTAFLLNIQLFEELQELLTHDTKDQSPSRAPGLRQRAS
NKVQDSAPVETPRGKPLNTRSQA

[ACTIVITY]

Heme Oxygenase 1 (HO1) is a stress-inducible rate-limiting enzyme in heme catabolism, catalyzing heme breakdown into carbon monoxide, biliverdin and free iron. As a core cytoprotective protein, it is robustly upregulated under oxidative stress, hypoxia and inflammatory stimuli, exerting potent anti-oxidative, anti-inflammatory and anti-apoptotic effects by scavenging reactive oxygen species and maintaining cellular iron homeostasis. Widely expressed in liver, spleen and vascular endothelial tissues, HO1 dysregulation is associated with cardiovascular diseases, neurodegeneration and cancer, rendering it a key therapeutic target for oxidative stress-related pathologies. It also modulates macrophage polarization and tissue repair, participating in innate and adaptive immune regulation. NFE2L2 translocates to the nucleus and binds the HMOX1 promoter to transcriptionally activate HO1 expression under stress. Briefly, NFE2L2 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ L were then transferred to HO1-coated microtiter wells and incubated for 1h at 37 °C. Wells were washed with PBST and incubated for 1h with anti-NFE2L2 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37 °C, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 °C. Finally, add 50 μ L stop solution to the wells and read at 450/630nm immediately.

Measured by its binding ability in a functional ELISA. When Recombinant human HO1 is Immobilized at 2 $\mu\text{g/mL}$ (100 μL well), the concentration of NFE2L2 that produces 50% optimal binding response is found to be approximately 0.063 $\mu\text{g/mL}$.

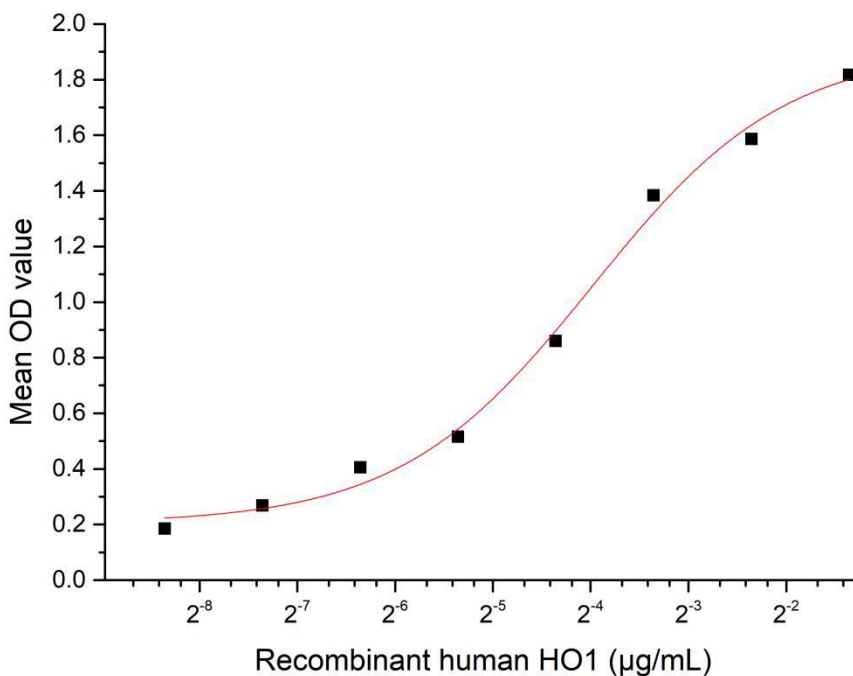


Figure 1. The binding activity of recombinant human HO1 and human NFE2L2

[IDENTIFICATION]

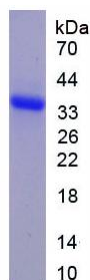


Figure 2. SDS-PAGE

Sample: Active recombinant HO1, Human

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.