APA584Bo61 100μg
Active Heme Oxygenase 1 (HO1)
Organism Species: *Bos taurus; Bovine (Cattle)*
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Eukaryotic expression.
Host: 293F cell
Residues: Met1~Ala266
Tags: N-terminal His Tag and C-terminal Fc Region of Human IgG1
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: 7.2
Predicted Molecular Mass: 61.4kDa
Accurate Molecular Mass: 68kDa as determined by SDS-PAGE reducing conditions.
Phenomenon explanation:
The possible reasons that the actual band size differs from the predicted are as follows:

1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.
5. Polymerization of the target protein: Dimerization, multimerization etc.

[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]

MERPQPDSSMPQDLSEALKEATKEVHTQAENAEFMKNFQKGELTQEGFKLVMASLYHIYVA
LEEEIERNKENPVYTPLYFPEELHRRASLEQDMAFWYGPRWQEAIPYTQATKRYVQRLQEV
GRTEPELLVAHAYTRYLGDLSGGQVLKKIAQKALNLPSSGEGLAFFTFPNIASATKFKQLYRSR
MNTLEMTPEVRQRVLDEAKTAFLLNIQLFEELQGLLTQKAKDHDPLQAPELHRRAGSKVQD
LAPTKASRGKPQPSVLSQA

[ACTIVITY]

Heme Oxygenase 1 (HO1) is an enzyme that catalyzes the rate-limiting step in heme degradation, converting heme into biliverdin, carbon monoxide (CO), and free iron. Expressed primarily in the spleen and liver, HO1 is induced by oxidative stress, inflammation, and hypoxia. It plays critical roles in cellular protection by mitigating oxidative damage, modulating inflammation, and promoting iron recycling. HO1's products, particularly CO and biliverdin (later reduced to bilirubin), exhibit antioxidant, anti-apoptotic, and vasodilatory properties. Its activity is tightly regulated and linked to pathophysiological processes, including ischemia-reperfusion injury, atherosclerosis, and neurodegenerative diseases.Biliverdin Reductase B (BLVRB) collaborates with HO1 , which rapidly reduces biliverdin to bilirubin. Thus a functional binding ELISA assay was conducted to detect the interaction of recombinant bovine HO1 and recombinant

human BLVRB. Briefly, biotin-linked HO1 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to BLVRB-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST 3 times and incubation with Streptavidin-HRP for 30min, then wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50μl stop solution to the wells and read at 450nm immediately. The binding activity of recombinant bovine HO1 and recombinant human BLVRB was shown in Figure 1, and this effect was in a dose dependent manner.

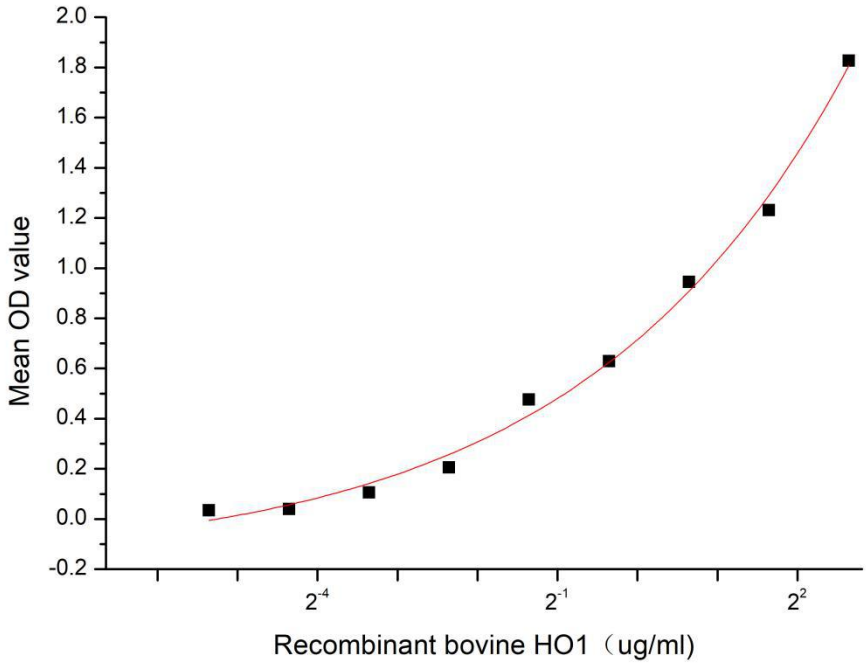

Figure 1. The binding activity of recombinant bovine HO1 and recombinant human BLVRB

[IDENTIFICATION]

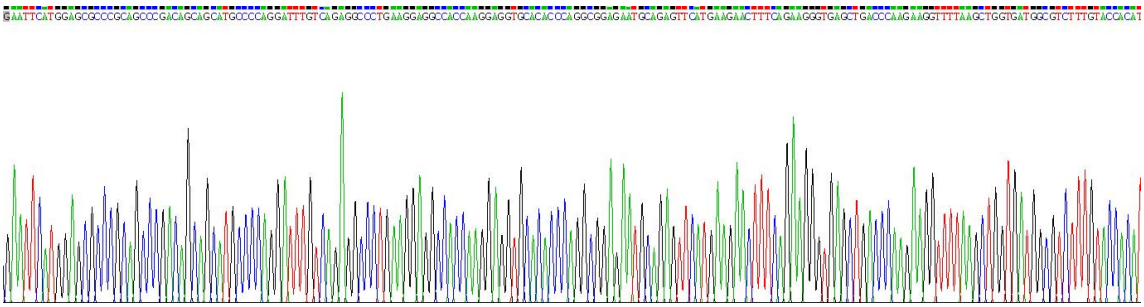

Figure 2. Gene Sequencing (extract)

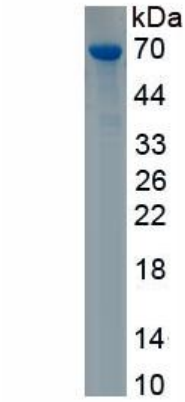

Figure 3. SDS-PAGE

Sample: Active recombinant HO1, Cattle

[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.