

APA601Hu02 200µg
Active Myeloperoxidase (MPO)
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: Prokaryotic expression.

Host: *E. coli*

Residues: Ala49~Ser745

Tags: N-terminal His-tag

Purity: >80%

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

Buffer Formulation: PBS, pH7.4, containing 0.01% SKL, 5%Trehalose .

Original Concentration: 300µg/mL

Applications: Cell culture; Activity Assays.

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

Predicted isoelectric point: 9.0

Predicted Molecular Mass: 82.7kDa

Accurate Molecular Mass: 75&25kDa 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]

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AAPAVLGEVDTSLVLSMEEAKQLVDKAYKERRESIKQRLRSGSASPMELLSYFKQPVAATRRTAVRAAD
YLHVALDLLERKLRSLWRRPFNVTDVLTPAQLNVLSKSSGCAYQDVGVTCPEQDKYRTITGMCNNRRSP
TLGASNRAFVRLWLP AEYEDGFS LYPGWTPGVKRNQFPVALARAVSNEIVRFPDQLTPDQERSLMFMQW
GQLLDHDLDF TPEPAARAS FVTGVCN CETS CVQQPPCFPLKIPPNDPRIKNQADCIPFFRSCPACPGSNI
TIRNQINALTSFVDASMVYGS EEP LARNLRNMSNQLG LLAVNQRFQDNGRALLPFDNLHDDPCLLTNRS
ARIPCF LAGDTRSS EPELTS MHTLLLREHNRLATEL KSLNPRWDGERLYQEARKIVGAMVQIITYRDY
LPLVLGPTAMRKYLPTYRSYND SVDPRIANVFTNAFRYGH TLIQPFMFRLDNRYQPM EPNRVP LSRVF
FASWRVVLEGGIDPILRGLMATPAKLN RQNQIAVDEIRERLFEQVMRIGLDLPALNMQR SRDHGLPGYN
AWRRFCGLPQPETV GQLGTVLRNLKLARKLMEQYGT PNNIDIWMGGVSEPLK RKG RVG PLLACIIGTQF
RKL RDGDRF W WENEGVF SMQQRQALAQI SLPRIICDNTGITT VSKNNIFMSNSYPRDF VNCSTLPALNL
ASWREAS
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[ACTIVITY]

Myeloperoxidase (MPO), a member of the XPO subfamily of peroxidases, is a 150 kDa heme protein produced mostly from polymorphonuclear neutrophils and monocytes. MPO is a part of the host defense system of polymorphonuclear leukocytes. It is responsible for microbicidal activity against a wide range of organisms. In the stimulated PMN, MPO catalyzes the production of hypohalous acids, primarily hypochlorous acid in physiologic situations, and other toxic intermediates that greatly enhance PMN microbicidal activity.

Cathepsin S (CTSS) is one of targets of MPO, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human MPO and recombinant bovine CTSS. Briefly, biotin-linked MPO were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to CTSS-coated microtiter wells and incubated for 1h at 37 $^{\circ}$ C . 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 $^{\circ}$ C . Finally, add 50 μ l stop solution to the wells and read at 450 nm immediately. The binding activity of recombinant human MPO and recombinant bovine CTSS was shown in Figure 1, the EC50 for this effect is 0.16 μ g/mL.

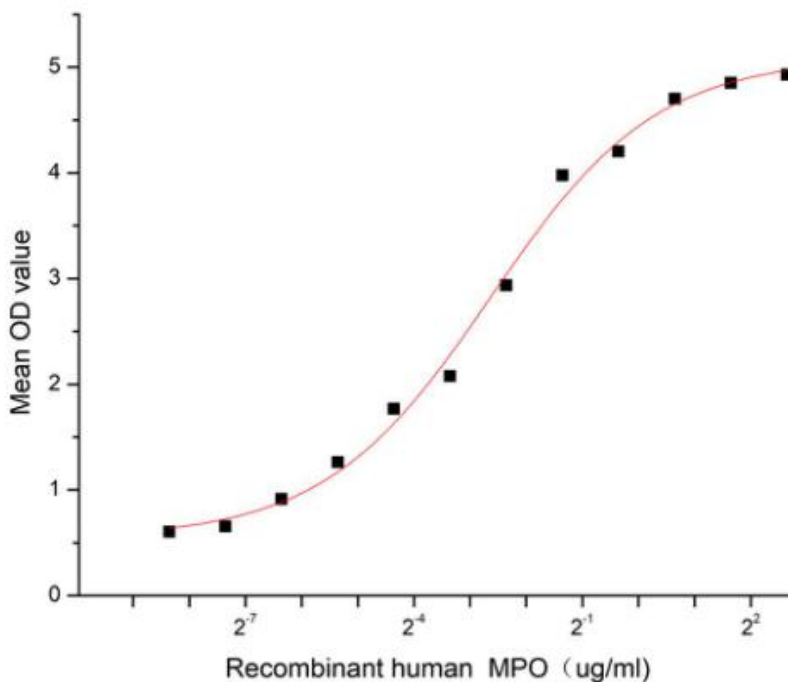


Figure 1. The binding activity of recombinant human MPO and recombinant bovine CTSS

