

APA102Hu02 100µg
Active Matrix Metalloproteinase 7 (MMP7)
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: Leu18~Lys267

Tags: N-terminal His-tag

Purity: >90%

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

Buffer Formulation: PBS, pH7.4, containing 0.01% Sarcosyl, 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: 7.8

Predicted Molecular Mass: 31.6kDa

Accurate Molecular Mass: 32kDa 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]

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LPL PQEAGGMSSEL QWEQAQDYLK RFYLYDSETK
NANSLEAKLK EMQKFFGLPI TGMLNSRVIE IMQKPRCGVP DVAEYSLFPN
SPKWTSKVVY YRIVSYTRDL PHITVDRLVS KALNMWGKEI PLHFRKVVWG
TADIMIGFAR GAHGDSYPFD GPGNTLAHAF APGTGLGGDA HFDEDERWTD
GSSLGINFLY AATHELGHSL GMGHSSDPNA VMYPTYGNGD PQNFKLSQDD
IKGIQKLYGK RSNRKK
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[ACTIVITY]

Matrix Metalloproteinase 7 (MMP7), also known as matrilysin, is a small secreted protease belonging to the MMP family. It plays key roles in extracellular matrix degradation, tissue remodeling, wound healing, and cancer progression by cleaving substrates like collagen, fibronectin, and proteoglycans. Unlike other MMPs, MMP7 lacks a hemopexin domain but remains highly active in processing cytokines and growth factors. It is overexpressed in various cancers and inflammatory diseases. MMP7 activity is tightly regulated by Tissue Inhibitor of Metalloproteinases 1 (TIMP1), which binds to MMP7 in a 1:1 stoichiometry to inhibit its proteolytic function. To detect the activity of recombinant MMP7, a functional ELISA assay was performed to evaluate the interaction between recombinant human IMMP7 and recombinant human TIMP1. Briefly, MMP7 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to TIMP1-coated microtiter wells and incubated for 1h at 37 °C. Wells were washed with PBST and incubated for 1h with anti-MMP7 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. The binding activity of recombinant human IMMP7 and recombinant human TIMP1 was shown in Figure 1, the EC₅₀ for this effect is 0.49 μ g/mL..

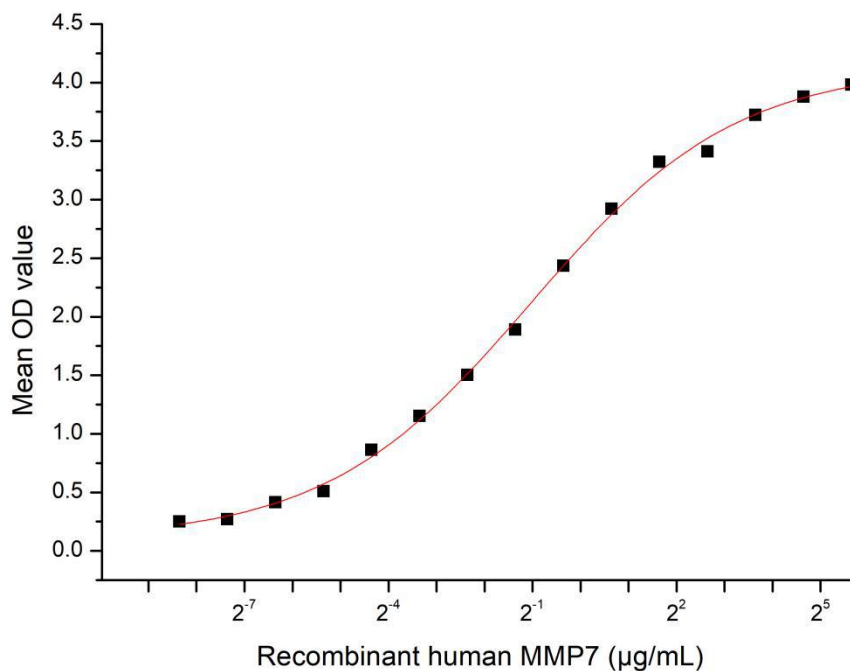


Figure 1. The binding activity of recombinant human IMMP7 and recombinant human TIMP1

[IDENTIFICATION]

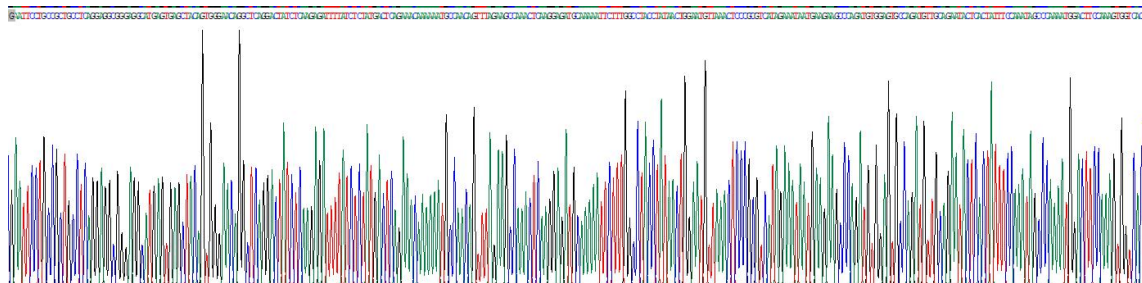


Figure 2. Gene Sequencing (extract)

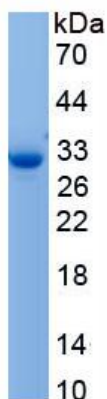


Figure 3. SDS-PAGE

Sample: Active recombinant MMP7, 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.