APA171Hu01 100μg
Active Meprin A Alpha (MEP1a)
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: His213~Val506
Tags: N-terminal His-tag
Purity: >95%
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: 6.4
Predicted Molecular Mass: 37.0kDa
Accurate Molecular Mass: 39kDa 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 2-8ºC for one month.
Aliquot and store at -80ºC 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 37ºC 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]

HYQPFSFN KNASVPTITA KIPEFNSIIG
QRLDFSAIDL ERLNRMYNCT TTHTLLDHCT FEKANICGMI QGTRDDTDWA HQDSAQAGEV
DHTLLGQCTG AGYFMQFSTS SGSAEEAALL ESRILYPKRK QQCLQFFYKM TGSPSDRLVV
WVRRDDSTGN VRKLVKVQTF QGDDDHNWKI AHVVLKEEQK FRYLFQGTKG DPQNSTGGIY
LDDITLTETP CPTGVWTVRN FSQVLENTSK GDKLQSPRFY NSEGYGFGVT LYPNSRESSG
YLRLAFHVCS GENDAILEWP VENRQV

[ACTIVITY]

Meprin A alpha (MEP1a) is a metalloprotease belonging to the astacin family, primarily expressed in the kidney, intestine, and immune cells. It plays a crucial role in extracellular matrix remodeling, inflammation, and epithelial barrier function by cleaving substrates such as collagen, cytokines, and adhesion molecules. MEP1a is synthesized as a zymogen and activated through proteolytic processing. It forms heterodimers with Meprin A beta (MEP1b), which stabilizes the complex and modulates substrate specificity.To detect the activity of recombinant MEP1a, a functional ELISA assay was performed to evaluate the interaction between recombinant human IMEP1a and recombinant rat MEP1b.Briefly, MEP1a was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to MEP1b-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-MEP1a pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 μL stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant human IMEP1a and recombinant rat MEP1b was

shown in Figure 1, the EC50 for this effect is 0.048μg/mL.

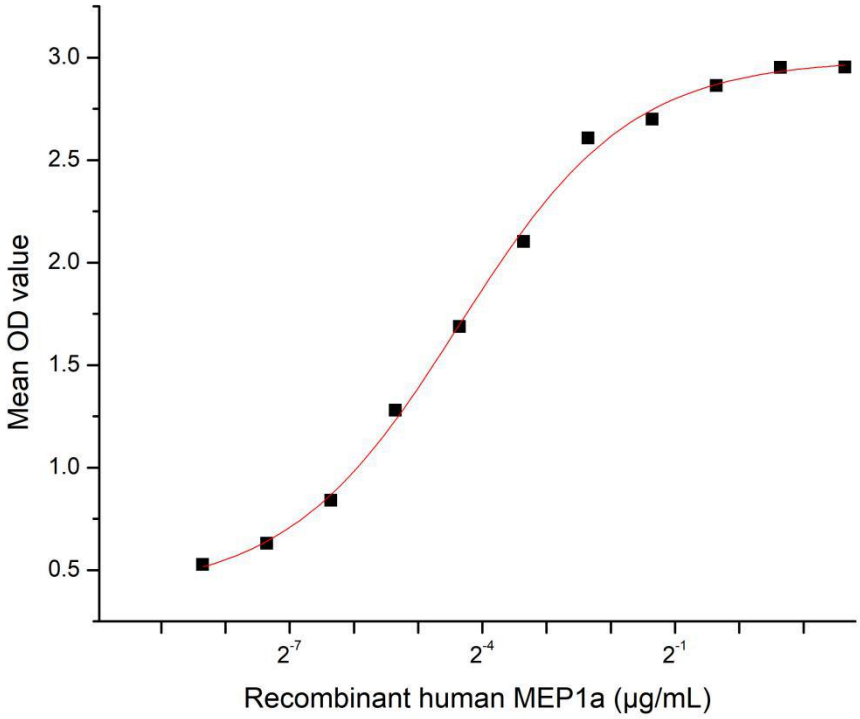

Figure 1. The binding activity of recombinant human IMEP1a and recombinant rat MEP1b

[IDENTIFICATION]

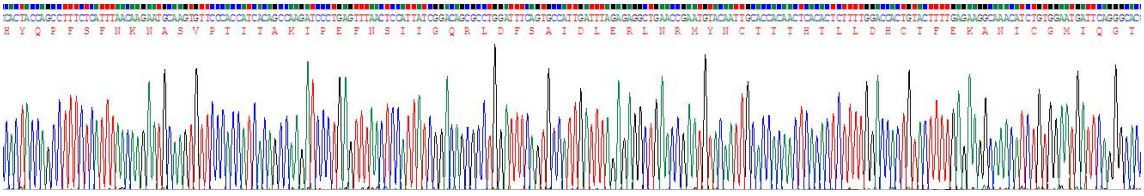

Figure 2. Gene Sequencing (extract)

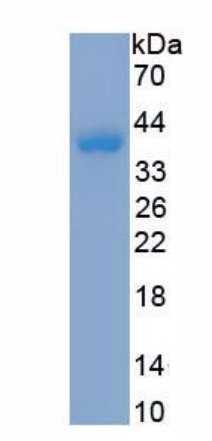

Figure 3. SDS-PAGE

Sample: Active recombinant MEP1a, 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.