

**APA099Ra61 100µg**  
**Active Matrix Metalloproteinase 13 (MMP13)**  
**Organism Species: Rattus norvegicus (Rat)**  
***Instruction manual***

FOR RESEARCH USE ONLY  
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

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1st Edition (Apr, 2016)

## **[ PROPERTIES ]**

**Source:** Eukaryotic expression.

**Host:** 293F cell

**Residues:** Leu14~Cys466

**Tags:** N-terminal His-tag

**Purity:** >98%

**Buffer Formulation:** 10mM PBS, pH7.4, containing 5% trehalose, 0.01% sarcosyl.

**Applications:** Cell culture; Activity Assays.

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

**Predicted isoelectric point:** 5.1

**Predicted Molecular Mass:** 53.4kDa

**Accurate Molecular Mass:** 60kDa 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.

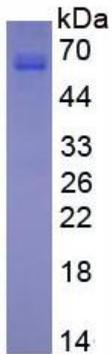
## **[ SEQUENCE ]**

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LPLPYGD DDDDDLSEED LEFAEHYLKS YYHPVTLAGI
LKKSTVTSTV DRLREMQSFF GLDVTGKLDD PTLDIMRKPR CGVPDVGVYN
VFPRTLKWSQ TNLTyrIVNY TPDISHSEVE KAFRKAFKVV SDVTPLNFTR
IHDGTADIMI SFGTKEHGDF YPFDGPGSLL AHAFPPGNL GGDAHFDDE
TWTSSSKGYN LFIVAAHEL G HSLGLDHSKD PGALMFPIYT YTGKSHFMLP
DDDvQGIQSL YGPGDEDPNP KHPKTPEKCD PALSldaITS LRGETMIFKD
RFFWRLHPQQ VEPELFLTKS FWPELpNHVD AAYEHpSRDL MFIFRGRKFW
ALNGYDIMEG YPRKISDLGF PKEVKRLSAA VHFEDTGKTL FFSGNHVWSY
DDANQTMdKD YPRLIIEEFp GIGDKVDAVY EKNGYIYFFN GPIQFEYSIW
SNRIVRVMPt NSLLWC
```

## **[ ACTIVITY ]**

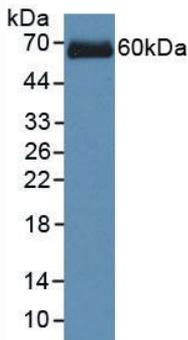
Matrix Metalloproteinase 13 (MMP13) is a member of the matrix metalloproteinase (MMP) family. MMP13 has been proposed to participate in aggrecan degradation associated with osteoarthritis and cleavage of type II collagen in osteoarthritic cartilage explants and in tumor progression and metastasis. In addition, it can cleave type I, III, IV, IX, X and XIV collagens and fibronectin. MMP13 is likely to





**Figure 3. SDS-PAGE**

**Sample: Active recombinant MMP13, Rat**



**Figure 4. Western Blot**

**Sample: Recombinant MMP13, Rat;**

**Antibody: Rabbit Anti-Rat MMP13 Ab (PAA099Ra06)**

### **[ 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.