**APA099Hu01 100μg**
**Active Matrix Metalloproteinase 13 (MMP13)**
**Organism Species: *Homo sapiens* (Human)**
***Instruction manual***

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

1st Edition (Apr, 2016)

## [ PROPERTIES ]

**Source:** Prokaryotic expression.
**Host:** *E. coli*
**Residues:** Glu103~Leu290
**Tags:** N-terminal His-tag
**Purity:** >95%
**Endotoxin Level:** <1.0EU per 1μg (determined by the LAL method).
**Buffer Formulation:** 20mM Tris, 150mM NaCl, pH8.0, containing 0.05% sarcosyl and 5% trehalose.
**Applications:** Cell culture; Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
**Predicted isoelectric point:** 5.7
**Predicted Molecular Mass:** 22.3kDa
**Accurate Molecular Mass:** 25kDa as determined by SDS-PAGE reducing conditions.

## [ USAGE ]

Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) 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 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.

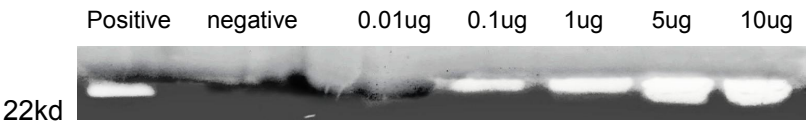
## [ SEQUENCE ]

EYNVFPRT LKWSKMNLTY RIVNYTPDMT HSEVEKAFKK AFKVWSDVTP
LNFTRLHDGI ADIMISFGIK EHGDFYPFDG PSGLLAHAFP PGPNYGGDAH
FDDDETWTSS SKGYNLFLVA AHEFGHSLGL DHSKDPGALM FPIYTYTGKS
HFMLPDDDVQ GIQSLYGPGD EDPNPKHPKT PDKCDPSLSL

## [ 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. MMP13 is likely to play a crucial role in the modulation of extracellular matrix degradation and cell-matrix interactions. In addition, it can cleave type I, III, IV, IX, X and XIV collagens and fibronectin. Thus we have chosed casein-zymography to measure the activity of MMP13. Briefly, various concentrations of MMP13 (10μg, 5μg, 1μg, 0.1μg, 0.01μg) were denatured by SDS loading buffer, electrophoresed through sodium dodecylsulphat-polyacrylamide gel (SDS-PAGE; 15% gels) containing casein (1 mg/mL) with nonreducing conditions. After renaturation, incubation and CCB-stained, active MMP13 would hydrolyze casein nearby, which was indicated by the white bands on the gel. In this experiment we use heat-denatured MMP13 protein as negative control, and trypsase (1ug/mL) as positive control.

Result : Casein hydrolysis by recombinant human MMP13 was shown in figure 1.




## [ IDENTIFICATION ]

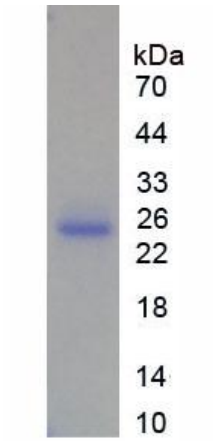



**Figure 2. SDS-PAGE**

**Sample: Active recombinant MMP13, Human**

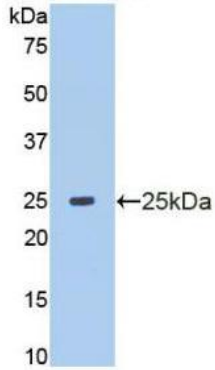



**Figure 3. Western Blot**

**Sample: Recombinant MMP13, Human;**

**Antibody: Rabbit Anti-Human MMP13 Ab (PAA099Hu01)**

## [ IMPORTANT NOTE ]

The kit is designed for in vitro and research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.