

**APA553Po01 10µg**  
**Active Matrix Metalloproteinase 9 (MMP9)**  
**Organism Species: *Sus scrofa*; *Porcine* (Pig)**  
***Instruction manual***

FOR RESEARCH USE ONLY  
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

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1st Edition (Apr, 2016)

## **[ PROPERTIES ]**

**Source:** Prokaryotic expression.

**Host:** *E. coli*

**Residues:** Ile169~Glu387

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

**Purity:** >94%

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

**Buffer Formulation:** 20mM Tris, 150mM NaCl, pH8.0, containing 0.01% skl 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:** 4.8

**Predicted Molecular Mass:** 27.9kDa

**Accurate Molecular Mass:** 30kDa as determined by SDS-PAGE reducing conditions.

## **[ USAGE ]**

Reconstitute in ddH<sub>2</sub>O to a concentration of 0.1-0.25 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 ]**

```
IQ GDAHFDDEEL WSLGKGVVVP TYFGNAKGAA  
CHFPFTFEGR SYSACTTDGR SDDMLWCSTT ADYDTRQFG FCPSERLFTR  
DGNADGKPCV FPFTFEGRSY SSCTTDGRSD GYRWC GTTAN YDQDKLYGFC  
PTRADSTVTG GNSAGDLCVF PFTFLGKEYS ACTREG RSDG HLWCATTSNF  
DKDKKKGFCP DQGYSLFLVA AHEFGHALGL DHSTVPE
```

## **[ ACTIVITY ]**

Mechanism: MMP9 is a zinc-dependent enzymes capable of cleaving components of the extracellular matrix, which belongs to the matrix metalloproteinase (MMP) family. It is a gelatinase A, 92kDa type IV collagenase which can hydrolyze gelatin under certain conditions. Gelatin zymography is mainly used for the detection of the gelatinases, MMP-2 and MMP-9 and It is extremely sensitive because levels of 10pg of MMP-2 can already be detected. Briefly, various concentrations of recombinant pig MMP9 (1000ng, 500ng, 100ng, 10ng, 1ng, 0.1ng) were denatured by SDS loading buffer, electrophoresed through sodium dodecylsulphate-polyacrylamide gel (SDS-PAGE; 10% gels) containing gelatin (1mg/mL) with nonreducing conditions. After renaturation, incubation and CCB-stained, active MMP9 would hydrolyze gelatin nearby, which was indicated by the white binds on the gel. In this experiment we use heat-denatured MMP9 protein as negative control, and blood sample as positive control.

Result: Gelatin hydrolysis by recombinant pig MMP9 (10-70kd) was shown in figure 1.

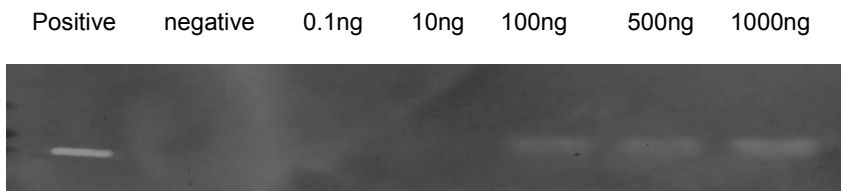


Figure 1. Hydrolysis of gelatin by MMP9.

[ IDENTIFICATION ]

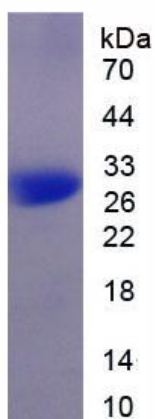


Figure 2. SDS-PAGE

Sample: Active recombinant MMP9, Porcine

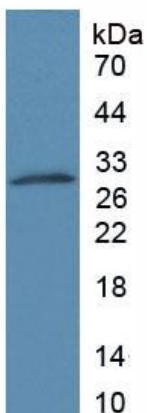


Figure 3. Western Blot

Sample: Recombinant MMP9, Porcine;

Antibody: Rabbit Anti-Porcine MMP9 Ab (PAA553Po01)

**[ 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.