

# Active Matrix Metalloproteinase 13 (MMP13) Instruction Manual

**SBPA066Hu01**

**Homo sapiens (Human)**

**Buffer Formulation**

20mM Tris, 150mM NaCl, pH8.0, containing 1mM EDTA, 1mM DTT, 0.01% SKL, 5% Trehalose and Proclin300.

**Traits**

Freeze-dried powder

**Purity**

> 95%

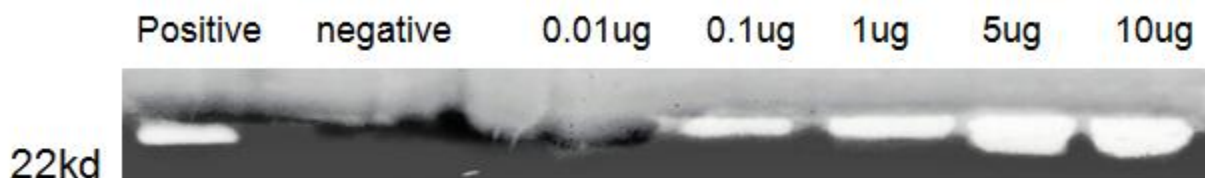
**Isoelectric Point**

5.7

**Applications**

Cell culture; Activity Assays.

**ACTIVITY TEST**



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 chosen casein-zymography to measure the activity of MMP13. Briefly, various concentrations of MMP13 (10 $\mu$ g, 5 $\mu$ g, 1 $\mu$ g, 0.1 $\mu$ g, 0.01 $\mu$ g) 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 trypsin (1 $\mu$ g/mL) as positive control.

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

**USAGE**

Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

## STORAGE

Avoid repeated freeze/thaw cycles. Store at 2-8°C for one month. Aliquot and store at -80°C for 12 months.

## STABILITY

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.

## Image

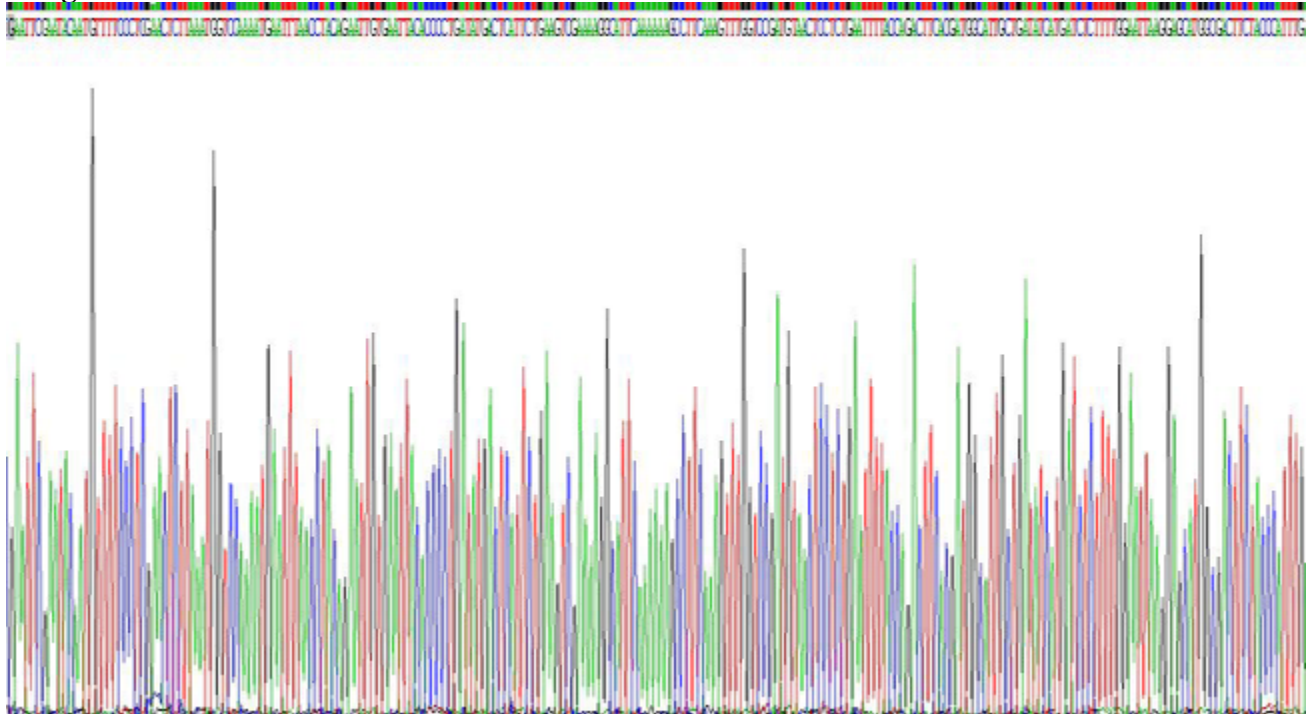


Figure . Gene Sequencing (extract)

## Image

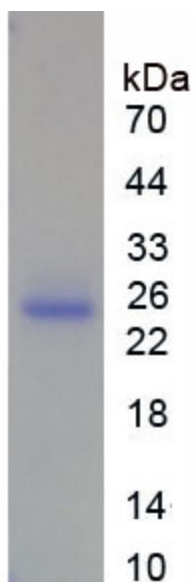


Figure. SDS-PAGE

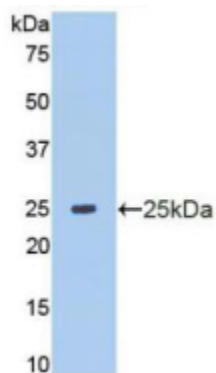


Figure. Western Blot

**[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.