

**APC970Hu01 100µg**

**Active Cathepsin V (CTSV)**

**Organism Species: Homo sapiens (Human)**

***Instruction manual***

FOR IN VITRO USE AND 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:** Gly64~Val334

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

**Purity:** >95%

**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:** 8.8

**Predicted Molecular Mass:** 31.1kDa

**Accurate Molecular Mass:** 32kDa 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.

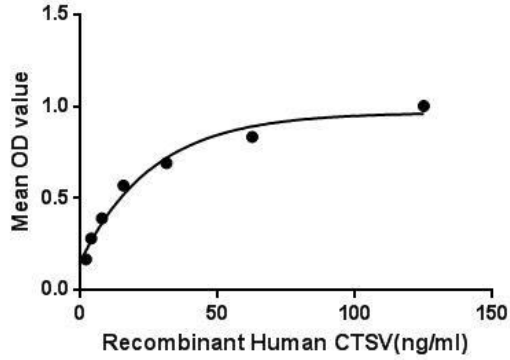
**Stability Test:** The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

## **[ SEQUENCE ]**

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GEYSQ GK HGFTMAMNAF GDMTNEEFRQ MMGCFRNQKF
RKGKVFREPL FLDLPKSVDW RKKGYVTPVK NQKQCGSCWA FSATGALEGQ
MFRKTGKLV S LSEQNLVDCS RPQGNQGCNG GFMARAFQYV KENGLDSEE
SYPYVAVDEI CKYRPENSVA NDTGFTVVAP GKEKALMKAV ATVGPI SVAM
DAGHSSFQFY KSGIYFEPDC SSKNLDHGV L VVGYGFE GAN SNNSKYWLVK
NSWGPEWGSN GYVKIAKDKN NHCGIATAAS YPNV
```

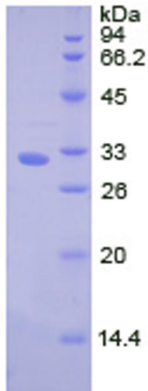
## **[ ACTIVITY ]**

Cathepsin V (CTSV) is a lysosomal cysteine proteinase which belongs to peptidase C1 family. It is expressed in normal human thymus, testis and corneal epithelium. Cathepsin V plays an important role in corneal physiology and mediates degradation of invariant chain in human thymus. Besides, Retinoblastoma Protein 1 (RB1) has been identified as an interactor of CTSV, thus a binding ELISA assay was conducted to detect the interaction of recombinant human CTSV and recombinant human RB1. Briefly, CTSV were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to RB1-coated microtiter wells and incubated for 2h at 37°C. Wells were washed with PBST and incubated for 1h with anti-CTSV pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally, add 50µL stop solution to the wells and read at 450nm immediately. The binding activity of CTSV and RB1 was shown in Figure 1, and this effect was in a dose dependent manner.



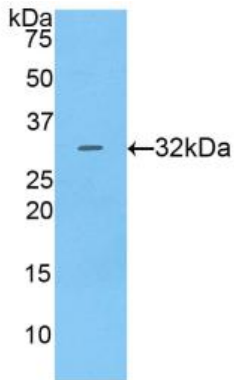
**Figure 1. The binding activity of CTSV with RB1.**

## **[ IDENTIFICATION ]**



**Figure 2. SDS-PAGE**

**Sample: Active recombinant CTSV, Human**



**Figure 3. Western Blot**

**Sample: Recombinant CTSV, Human;**

**Antibody: Rabbit Anti-Human CTSV Ab (PAC970Hu01)**