

# Active Cathepsin D (CTSD)

## Instruction Manual

**SBPB218Hu61**

**Homo sapiens (Human)**

**Buffer Formulation**

PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.

**Traits**

Freeze-dried powder

**Purity**

> 97%

**Isoelectric Point**

6.1

**Applications**

Cell culture; Activity Assays.

### ACTIVITY TEST

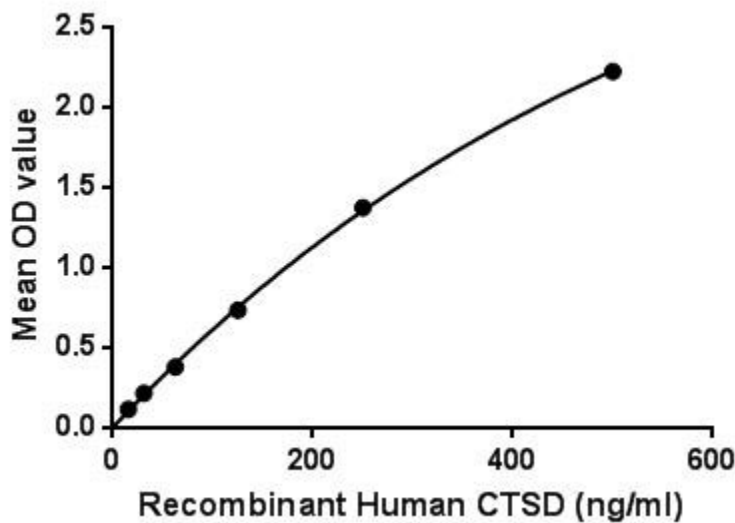


Figure. The binding activity of CTSD with HSP90b1.

Cathepsin D (CSTD) is an aspartic protease that depends critically on protonation of its active site Asp residue. Along with Asp-protonation, lower pH also leads to conformational switch in cathepsin-D: the N-terminal segment of the protease moves out of the active site as pH drops. Similar to other aspartic proteinases, cathepsin D accommodates up to 8 amino acid residues in the binding cleft of the active site. The main physiological functions of cathepsin D consist of metabolic degradation of intracellular proteins, activation and degradation of polypeptide hormones and growth factors, activation of enzymatic precursors, processing of enzyme activators and inhibitors, brain antigen processing and regulation of programmed cell death. Besides, Heat Shock Protein 90kDa Beta 1 (HSP90b1) has been identified as an interactor of

CSTD, thus a binding ELISA assay was conducted to detect the interaction of recombinant human CSTD and recombinant human HSP90b1. Briefly, CSTD were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 $\mu$ L were then transferred to HSP90b1-coated microtiter wells and incubated for 2h at 37°C. Wells were washed with PBST and incubated for 1h with anti-CSTD 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 50 $\mu$ L stop solution to the wells and read at 450nm immediately. The binding activity of CSTD and HSP90b1 was shown in Figure 1, and this effect was in a dose dependent manner.

## **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**

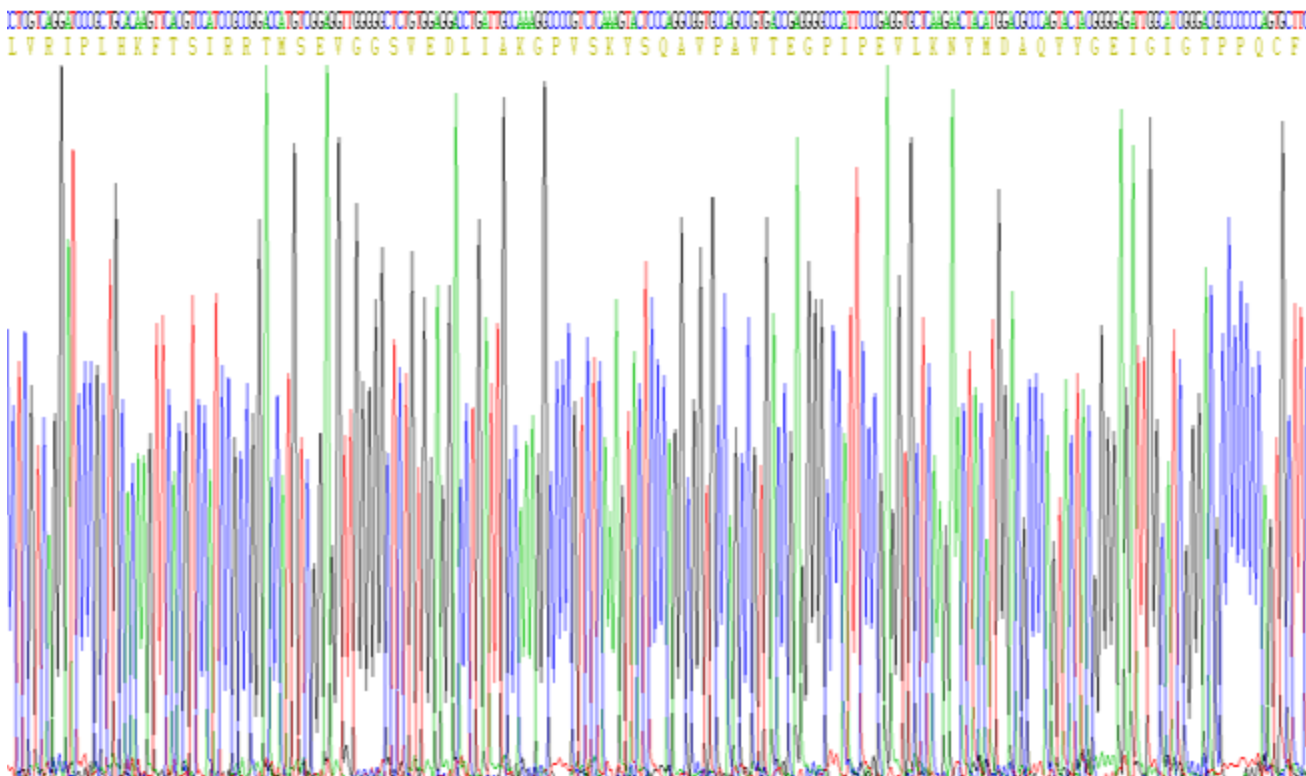


Figure. Gene Sequencing (Extract)

**Image**

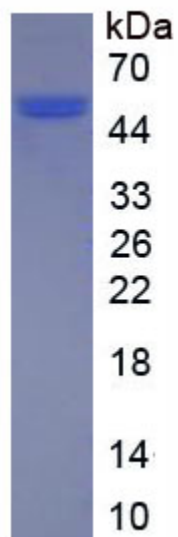


Figure. SDS-PAGE

**[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.