

APA348Ra01 100µg

Active Cathepsin A (CTSA)

Organism Species: *Rattus norvegicus* (Rat)

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: Ala151~Val394

Tags: Two N-terminal Tags, His-tag and GST-tag

Purity: >92%

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: 7.0

Predicted Molecular Mass: 57.9kDa

Accurate Molecular Mass: 57kDa 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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ALKDFYHLFP  EYKDNKLFLLT  GESYAGIYIP  TLAVLVMQDP  SMNLQGLAVG  
NGLSSYEQND  NSLVYFAYYH  GLLGNRLWTS  LQTHCCSQNK  CNFYDNKDPD  
CVNNLQEVSR  IVGKSGLNIIY  NLYAPCAGGV  PGRDRSEDTL  VVQDFGNIFT  
RLPLKRRFPE  ALLLRSGDKV  RLDPPCTNTT  APSTYLNPNY  VRKALHIPES  
LPRWDMCNLM  VNLQYRRLYE  SMNSQYLKLL  SSQKYQILLY  NGDV
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[ACTIVITY]

Cathepsin A (CTSA) is an enzyme that is classified both as a cathepsin and a carboxypeptidase. This gene encodes a glycoprotein that associates with lysosomal enzymes beta-galactosidase and neuraminidase to form a complex of high-molecular-weight multimers. The formation of this complex provides a protective role for stability and activity. It is protective for β -galactosidase and neuraminidase. Besides, Neuraminidase (NEU) has been identified as an interactor of CTSA, thus a binding ELISA assay was conducted to detect the interaction of recombinant rat CTSA and recombinant rat NEU. Briefly, CTSA were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ L were then transferred to NEU-coated microtiter wells and incubated for 2h at 37°C. Wells were washed with PBST and incubated for 1h with anti-CTSA 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 μ L stop solution to the wells and read at 450nm immediately. The binding activity of CTSA and NEU was shown in Figure 1, and this effect was in a dose dependent manner.

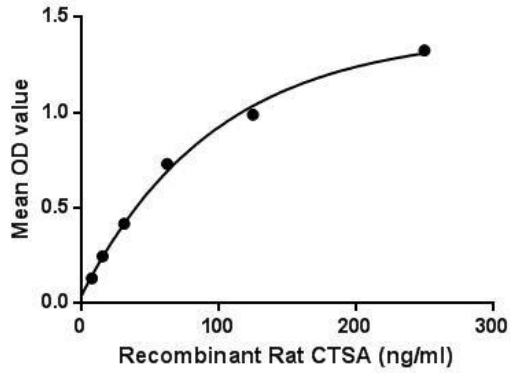


Figure 1. The binding activity of CTSA with NEU.

[IDENTIFICATION]

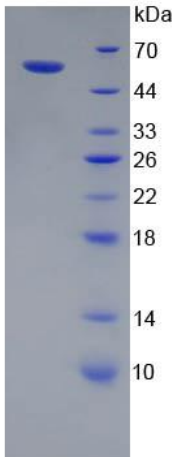


Figure 2. SDS-PAGE

Sample: Active recombinant CTSA, Rat

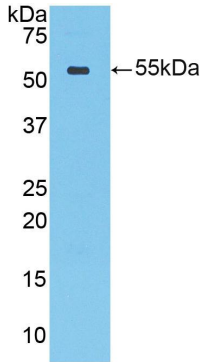


Figure 3. Western Blot

Sample: Recombinant CTSA, Rat;

Antibody: Rabbit Anti-Rat CTSA Ab (PAA348Ra01)

[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.