APD993Ra01 100μg
Active Cathepsin G (CTSG)
Organism Species: *Rattus norvegicus (Rat)*
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Prokaryotic expression.
Host: *E. coli*
Residues: Gly51~Tyr250
Tags: N-terminal His-tag
Purity: >95%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 0.01% SKL, 5%Trehalose .
Original Concentration: 200μg/mL
Applications: Cell culture; Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 11.2
Predicted Molecular Mass: 23.6kDa
Accurate Molecular Mass: 24kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

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

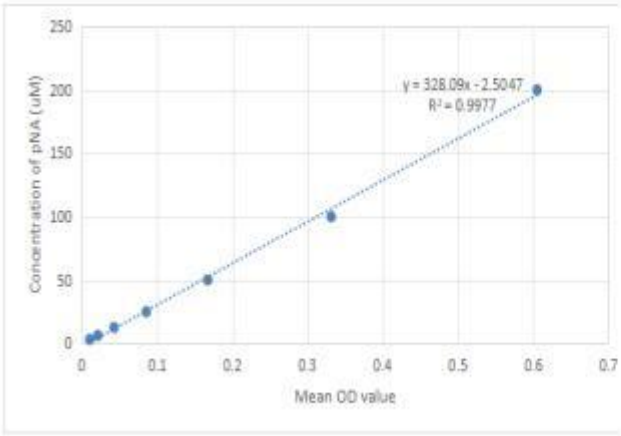
Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37ºC for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date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

[SEQUENCE]

GFLVREDFVL TAGHCFGSSI NVTLGAHNIR RQEGTQQHIT VLRAIRHPDY
NPPPVIQNDI MLLQLRSRAR RSRAVKPVAL PQATKRVQPG ALCTVAGWGL
VSQRRGTNVL QEVKLRVQTD QTCANRFQFY NSQTQICVGN PRERKSAFKG
DSGGPLVCNN VAQGIVSYGS SSGNPPAVFT RIQSFMPWIK RTMRRLSSRY

[ACTIVITY]

Cathepsin G (CTSG) is a neutral proteinase secreted by neutrophil granulocytes. It belongs to the family of serine proteases. Cathepsin G is a glycoprotein, which contains 1% carbohydrate. The activity assay of recombinant rat CTSG was measured by its ability to cleave the peptide substrate Suc-Ala-Ala Pro-Phe-pNA. The reaction was performed in 160 mM Tris-HCl, 1.6 M NaCl, pH 7.4 (Assay Buffer). The CTSG was diluted to different concentrations and the reaction was initiated by adding 50 ul CTSG to 50 ul 1 mM substrate and then read at 405 nm in kinetic mode for 5 minutes. The specific activity of recombinant rat CTSG is >70 pmol/min/μg.



OD405nm	pNA (uM)
0.6051	200
0.3314	100
0.1674	50
0.0855	25
0.0426	12.5
0.021	6.25
0.0101	3.125

Figure 1. The standard curve of pNA

One unit of enzyme activity is defined as the 1 μg of enzyme required to convert 1 pmol of Suc-Ala-Ala Pro-Phe-pNA to pNA in 1min at 37°C.

Specific Activity (pmol/min/μg)= $\frac{\Delta OD * F}{T * N}$

△OD=Adjusted for Substrate Blank

F=Conversion Factor (convert from standard curve of pNA)

T= Time

N=Amount of enzyme

[IDENTIFICATION]

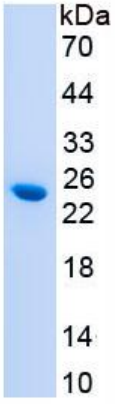


Figure 2. SDS-PAGE

Sample: Active recombinant CTSG, Rat

[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.