

Cystatin 5 (CST5) Active Protein | CST5 active protein

Active Cystatin 5 (CST5)

CATALOG # AAA161930	HOST E Coli	APPLICATIONS Activity Assay, Cell Culture
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PRODUCT SYNONYMS

Cystatin 5 (CST5); Active Cystatin 5 (CST5); Cystatin 5; Cystatin D4; CST5 active protein

PRODUCT SPECIFICATIONS

Host	E Coli
Purity/Purification	Greater than 95% by SDS-PAGE
Form/Format	Freeze-dried powder; PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Sequence	Gly21~Val1 42
Applicable Applications for CST5 active protein	Activity Assay, Cell Culture
Species	Human
Expression System	Prokaryotic expression
Tag	N-terminal His Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method)
Isoelectric Point	8.3
Research Area	Immune molecule
Preparation and Storage	Store at 2-8 degree C for one month, -80 degree C for 12 months

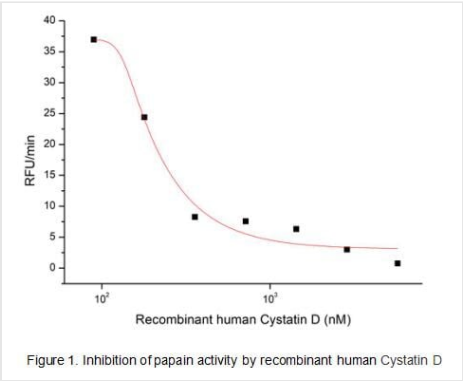
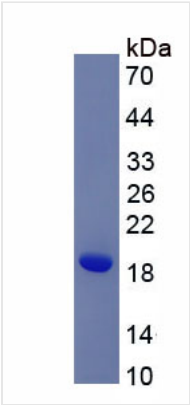


Figure 1. Inhibition of papain activity by recombinant human Cystatin D



SDS-PAGE
Figure. SDS-PAGE

Bioactivity

Cystatin D is a member of family 2 of the cystatin superfamily. In contrast to other members of family 2, Cystatin D has restricted tissue distribution and has been found only in saliva and tears. Two allelic variants (Arg46 and Cys46) are known in the human protein and they are not significantly different in their inhibitory activity against papain and cathepsins B, H, L and S. Recombinant Human Cystatin D corresponds to the Arg46 variant. The functions of Cystatin D are largely unknown. However, Cystatin D has been shown to inhibit coronavirus replication at its physiological concentration (0.121.9 uM) and has been suggested to play a protective role against proteases present in the oral cavity. The activity of recombinant human Cystatin D was measured by its ability to inhibit papain cleavage of a fluorogenic peptide substrate Z-FR-AMC in the assay buffer 50 mM Tris, pH 7.0. Papain was diluted to 500 ug/ml in activation buffer 50 mM Tris, 5 mM DTT, pH 7.0 and incubated at room temperature for 15 minutes. The activated papain was diluted to 100 ug/ml in the assay buffer and 20 ul different concentrations of recombinant human Cystatin D (MW: 17.45 KD) was incubated with 20 ul 100 ug/ml papain at 37 degree C for 10 minutes. Loading 50 uL of the incubated mixtures which were diluted five-fold in assay buffer into empty wells of a plate, and start the reaction by adding 50 uL of 200 uM substrate. Include a substrate blank containing 50 uL of assay buffer and 50 uL of 200 uM substrate. Then read at excitation and emission wavelengths of 380 nm and 460 nm, respectively, in kinetic mode for 5 minutes. The result was shown in Figure 1 and it was obvious that recombinant human Cystatin D significantly decreased papain activity. The inhibition IC50 was

ADDITIONAL INFORMATION

Product Categories/Family for CST5 active protein	Active proteins
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NCBI AND UNIPROT INFORMATION

NCBI GI #	19882256
NCBI GeneID	1473
NCBI Accession #	NP_001891.2
NCBI GenBank Nucleotide #	NM_001900.4
UniProt Accession #	P28325; Q5JRF5; Q9UCA0
Molecular Weight	16,080 Da
NCBI Official Full Name	cystatin-D
NCBI Official Synonym Full Names	cystatin D
NCBI Official Symbol	CST5
NCBI Protein Information	cystatin-D
UniProt Protein Name	Cystatin-D
UniProt Gene Name	CST5

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/e-coli-active-protein/cystatin-5-cst5/161930>