

Cystatin A (CSTA) Active Protein | CSTA active protein

Active Cystatin A (CSTA)

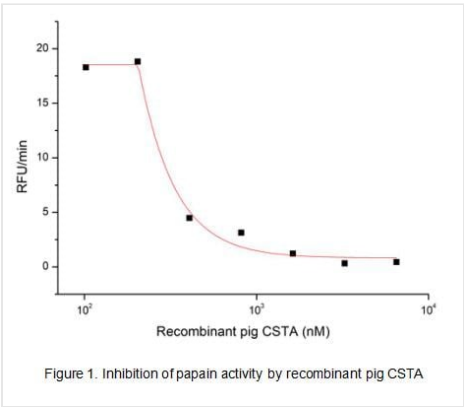
CATALOG # AAA161737	HOST E Coli	APPLICATIONS Activity Assay, Cell Culture
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PRODUCT SYNONYMS

Cystatin A (CSTA); Active Cystatin A (CSTA); Cystatin A; Cys-A; STF1; STFA; Stefin A; Cystatin-AS4; CSTA active protein

PRODUCT SPECIFICATIONS

Host	E Coli
Purity/Purification	Greater than 90% by SDS-PAGE
Form/Format	Freeze-dried powder; PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Sequence	Met1~Phe103
Applicable Applications for CSTA active protein	Activity Assay, Cell Culture
Species	Pig
Expression System	Prokaryotic expression
Tag	N-terminal His Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method)
Isoelectric Point	5.8
Research Area	Tumor immunity, Infection immunity, Pulmonology
Preparation and Storage	Store at 2-8 degree C for one month, -80 degree C for 12 months

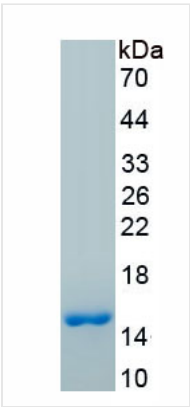


Bioactivity

Cystatin A (CSTA) is a member of family 1 of the cystatin superfamily. Like Cystatin B, it is an intracellular inhibitor regulating the activities of cysteine proteases of the papain family such as cathepsins B, H and L. For example, immunohistochemical analysis of Cystatin A and cathepsin L is a useful indicator for malignancy in human epidermal keratinocytes. The ratio of cathepsin B and Cystatin A can be used in the differential identification and treatment of patients with prostate carcinoma. The activity of recombinant pig Cystatin A 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 pig Cystatin A (MW: 40.9 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 pig Cystatin A significantly decreased papain activity. The inhibition IC50 was

SDS-PAGE

Figure. SDS-PAGE



ADDITIONAL INFORMATION

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

NCBI GI #	47523140
NCBI GeneID	396866
NCBI Accession #	NP_999024.1
NCBI GenBank Nucleotide #	NM_213859.1
UniProt Accession #	Q28988
Molecular Weight	11,650 Da
NCBI Official Full Name	cystatin-A1
NCBI Official Symbol	LOC396866
NCBI Protein Information	cystatin-A1
UniProt Protein Name	Cystatin-A1

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.