

Active Recombinant Human CST5 protein, His-tagged

Cat. No. CST5-1856H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Active Recombinant Human CST5 protein(P28325)(21-142 aa), fused with N-terminal His tag, was expressed in E.coli.
Species	Human
Source	E.coli
ProteinLength	21-142 aa
Form	PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Bio-activity	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 (0.12 1.9 μM) 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

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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°C for 10 minutes. Loading 50 µ 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 µ of 200 µM substrate. Include a substrate blank containing 50 µ of assay buffer and 50 µ of 200 µM 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 and it was obvious that recombinant human Cystatin D significantly decreased papain activity. The inhibition IC50 was <200 nM.

Molecular Mass	17.5kDa
Endotoxin	<1.0EU per 1µg (determined by the LAL method).
Purity	> 95%
Storage	Avoid repeated freeze/thaw cycles. Store at 2-8°C for one month. Store at -20°C for 12 months. Aliquot and store at -80°C for 12 months.
Reconstitution	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

GENE INFORMATION

Gene Name	CST5 cystatin D [Homo sapiens]
Official Symbol	CST5
Synonyms	CST5; cystatin D; cystatin-D; cystatin 5; cystatin-5; cysteine-proteinase inhibitor; MGC71922;

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Gene ID 1473

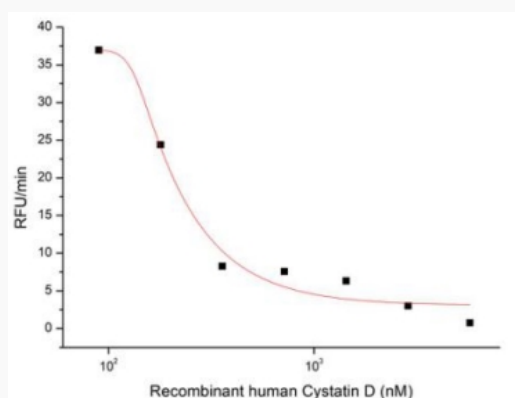
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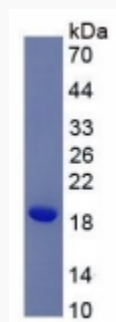
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UniProt ID P28325

Activity



SDS-PAGE



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