

## Active Recombinant Pig CSTA protein, His-tagged

**Cat. No.** CSTA-861P    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Active Recombinant Pig CSTA protein(Q28988)(1~103 aa), fused with N-terminal His tag, was expressed in E.coli.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Species</b>          | Pig                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>ProteinLength</b>    | 1-103 aa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Form</b>             | Lyophilized from sterile PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Bio-activity</b>     | <p>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 diagnosis 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°C for 10</p> |

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minutes. Loading 50  $\mu$  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  $\mu$  of 200  $\mu$ M substrate. Include a substrate blank containing 50  $\mu$  of assay buffer and 50  $\mu$  of 200  $\mu$ M 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 pig Cystatin A significantly decreased papain activity. The inhibition IC<sub>50</sub> was <300 nM.

**Molecular Mass** 15.3kDa

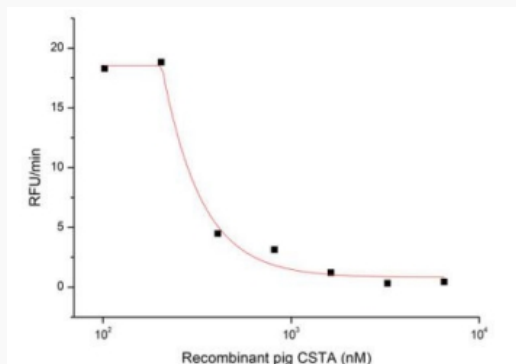
**Endotoxin** <1.0EU per 1 $\mu$ g (determined by the LAL method).

**Purity** > 90% as determined by SDS-PAGE.

**Storage** Avoid repeated freeze/thaw cycles. 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.

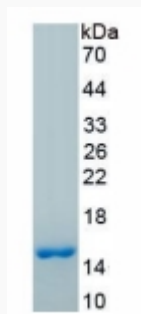
**Activity**



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**SDS-PAGE**

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