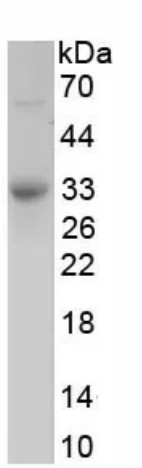
# Active Cathepsin S (CTSS)

*Catalog#:PEM12770*

## 概述（Summary）

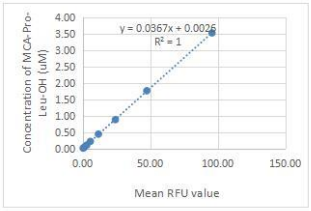
| | |
|---|---|
| **别称（Alternative Names）** | CTS-S |
| **纯度（Purity）** | Greater than 90% as determined by reducing SDS-PAGE. |
| **内毒素（Endotoxin level）** | Please contact with the lab for this information |
| **蛋白构建（Construction）** | 【Leu123-Glu339】 |
| **Accession #** | O70370 |
| **表达宿主（Host）** | E.coli |
| **种属（Species）** | Mus musculus (Mouse) |
| **预测分子量（Predicted MW）** | 30.3 kDa |
| **制剂（Form）** | Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300. |
| **运输方式（Shipping）** | The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below. |
| **稳定性&储存（Stability &Storage）** | 12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles. |
| **复溶（Reconstitution）** | Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex. |
| **背景介绍（References）** | Thiol protease. Key protease responsible for the removal of the invariant chain from MHC class II molecules and MHC class II antigen presentation. The bond-specificity of this proteinase is in part similar to the specificities of cathepsin L. |

## 电泳图（SDS-PAGE image）




Greater than 90% as determined by reducing SDS-PAGE.

## 活性图（Bioactivity image）




| RFU (320/405) | MCA-Pro-Leu-OH (product) uM |
|---|---|
| 95.78 | 3.52 |
| 47.46 | 1.76 |
| 24.20 | 0.88 |
| 11.63 | 0.44 |
| 5.71 | 0.22 |
| 3.05 | 0.11 |
| 1.52 | 0.05 |
| 0.77 | 0.03 |

Figure 1. The standard curve of MCA-Pro-Leu-OH

Specific Activity (pmol/min/µg) =

$$\frac{\text{Adjusted Vmax * (RFU/min) x Conversion Factor ** (pmol/RFU)}}{\text{amount of enzyme (ug)}}$$

*Adjusted for Substrate Blank

**Derived using calibration standard MCA-Pro-Leu-OH

Cathepsin S (CTSS) is a lysosomal cysteine protease of the papain family. It plays a major role in the processing of the MHC class II associated invariant chain. It has been implicated in the pathogenesis of several diseases such as Alzheimer's disease and degenerative disorders associated with the cells of the mononuclear phagocytic system. Mouse Cathepsin S is synthesized as a preproenzyme of 340 amino acid residues consisting a signal peptide (residues 1 17), a pro region (residues 18 122), and the mature enzyme (residues 123 340). Cathepsin S is less abundant in tissues than Cathepsins B, L and H. The activity of recombinant mouse CTSS is measured by its ability to cleave a fluorogenic peptide substrate Mca-Arg-Pro-Lys-Pro-Val-Glu-Nval-Trp-Arg-Lys(Dnp)-NH2 in the assay buffer 50 mM NaOAc, 5 mM DTT, 250 mM NaCl, pH 4.5. The rmCTSS is diluted to 50 ug/ml in assay buffer, then incubated at room temperature for 2h. The incubated rmCTSS is diluted to 5 ug/mL in assay buffer. Loading into a black well plate 50 µL of 5 ug/mL rmCTSS and start the reaction by adding 50 µL of 20 µM substrate, with a substrate blank containing 50 µL assay buffer, 50 µL substrate, and no rmCTSS. Then read at excitiation and emission wavelengths of 320 nm and 405 nm, respectively, in kinetic mode for 5 minutes. The specific activity of recombinant mouse CTSS is > 10 pmol/min/µg.

## 注意事项（Note）

For Research Use Only , Not for Diagnostic Use.