

## Cathepsin S from Human, recombinant

Cat. No. NATE-1702

Lot. No. (See product label)

### Introduction

**Description** Cathepsin S (CTSS) is a lysosomal cysteine protease of the papain family and may participate in the degradation of antigenic proteins to peptides for presentation on MHC class II molecules. CTSS is synthesized as inactive precursor of 331 amino acids consisting of a 15-aa signal peptide, a propeptide of 99 aa, and a mature polypeptide of 217 aa. It is activated in the lysosomes by a proteolytic cleavage of the propeptide. The deduced amino acid sequence contains only one potential N-glycosylation site located in the propeptide. Compared with the abundant cathepsins B, L and H, cathepsin S shows a restricted tissue distribution, with highest levels in spleen, heart, and lung. In addition, evidences indicate that cathepsin S generates amyloid beta-peptide from amyloidogenic fragments of amyloid precursor protein (APP) in the endosomal/lysosomal compartment, and is implicated in the pathogenesis of Alzheimer's disease and Down Syndrome.

**Synonyms** CTSS; cathepsin S; EC 3.4.22.27; FLJ50259; MGC3886

### Product Information

**Species** Human

**Source** E. coli

**Form** Lyophilized from proprietary buffer.

**EC Number** EC 3.4.22.27

**CAS No.** 71965-46-3

**Molecular Weight** 23.9 kDa (115-331 aa)

**Purity** > 90% by SDS-PAGE

**Activity** >2000 mU/mg

**Unit Definition** 1 U = Digestion of 1  $\mu$ mole/min of Ac-VVR-AFC substrate (K144-100).

### Storage and Shipping Information

**Storage** Stable for at least 1 year as supplied. Briefly spin down the vial and reconstitute in 50 mM sodium acetate, 100 mM NaCl (pH 5.5) to 0.1-1 mg/ml and store at -80°C. Avoid repeated freeze and thaw cycles.