

## Native Bovine Cathepsin C

Cat. No. NATE-0170

Lot. No. (See product label)

### Introduction

#### Description

Cathepsin C is a dipeptidyl aminopeptidase that can sequentially remove dipeptides from a peptide chain with an unsubstituted N-terminus. The enzyme exhibits a preference for glycine and proline as N-terminal aminoacids. Substrates that have an N-terminal lysyl or arginyl residue, or a penultimate proryl residue are not targeted by this enzyme. The endopeptidase activity requires the presence of halide ions and sulfhydryl activators.

#### Applications

Cathepsin C has been used in a study that demonstrated the potential of a proteomics approach to identify novel proteins expressed by extravillous trophoblast and to uncover the mechanisms leading to disease states in pregnancy. Cathepsin C has also been used in a study to evaluate biodegradable thermogels. The enzyme from Creative Enzymes has been used in the activation of granzyme k (Gzmk) precursor from E. coli. Granzymes are granule-stored lymphocyte serine proteases that are implicated in T-and natural killer cell-mediated cytotoxic defense reactions.

#### Synonyms

CTSC; cathepsin C; 9032-68-2; EC 3.4.14.1; dipeptidyl aminopeptidase I; dipeptidyl transferase; dipeptidyl transferase; dipeptide arylamidase I; DAP I; dipeptidyl-peptidase I; DPP-I; CPPI; DPP1; DPPI; HMS; JP; JPD; PALS; PDON1; PLS

### Product Information

#### Species

Bovine

#### Source

Bovine spleen

#### Form

Lyophilized from a 1 M sodium chloride solution.

#### EC Number

EC 3.4.14.1

#### CAS No.

9032-68-2

#### Activity

> 5 units/mg protein

#### Composition

Protein, > 25% biuret

#### Pathway

Lysosome, organism-specific biosystem; Lysosome, conserved biosystem

#### Function

cysteine-type peptidase activity

#### Unit Definition

One unit will produce 1  $\mu$ mole of Gly-Phe-NHOH from Gly-Phe-NH<sub>2</sub> and hydroxylamine per min at pH 6.8 at 37°C using DL-phenylalanine hydroxamic acid as the standard. In addition to its hydrolytic properties, cathepsin C catalyzes the polymerization of dipeptide amides.