

## Native Human Calpain 1

Cat. No. NATE-0100

Lot. No. (See product label)

### Introduction

#### Description

Calpain 1 is a neutral calcium-dependent cysteine protease containing the EF-hand motif. The protease consists of two subunits; the larger subunit has four domains that are homologous with papain and calmodulin. The smaller subunit has one domain that shares homology with calmodulin. It is activated by micromolar levels of calcium and hence, it is also called as micro-calpain. Its activation leads to cellular protein degradation, neuronal cell degeneration, and autoimmune demyelinating diseases such as multiple sclerosis.

#### Applications

Human calpain 1 has been used in a study to assess how the crystal structures of human calpains 1 and 9 imply diverse mechanisms of action and auto-inhibition. Human calpain 1 has also been used in a study to investigate the synthesis, biological evaluation and molecular modelling of N-heterocyclic dipeptide aldehydes as selective calpain inhibitors.

#### Synonyms

calpain 1,  $\mu$ -calpain; calcium-activated neutral protease I; EC 3.4.22.52

### Product Information

#### Source

Human

#### Form

aqueous glycerol solution

#### EC Number

EC 3.4.22.52

#### CAS No.

78990-62-2

#### Buffer

Solution in 20 mM Imidazole-HCl, 5 mM  $\beta$ -Mercaptoethanol, 1 mM EDTA, 1 mM EGTA, and 30% glycerol.

#### Pathway

Alzheimers disease, organism-specific biosystem; Alzheimers disease, conserved biosystem; Apoptosis, organism-specific biosystem; Apoptosis, conserved biosystem; Focal Adhesion, organism-specific biosystem; Integrin-mediated cell adhesion, organism-specific biosystem; Protein processing in endoplasmic reticulum, organism-specific biosystem

#### Function

calcium ion binding; calcium-dependent cysteine-type endopeptidase activity; peptidase activity; protein binding

### Storage and Shipping Information

#### Storage

-70°C