

Native Clostridium histolyticum Cysteine (C41, heavy chain)

Cat. No. Cysteine-01C **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Clostripain is a heterodimer. The mature chain is composed of 526 residues. The two chains are held together by strong noncovalent forces. The catalytic sulfhydryl residue of the active site is believed to be Cys41 (heavy chain residue). The precursor contains a 27 amino acid putative signal peptide, a 23 amino acid propeptide, a 131 amino acid light chain subunit, a 9 amino acid linker peptide, and a 336 amino acid heavy chain subunit.

Clostripain selectively hydrolyzes arginyl bonds and lysyl bonds at a lower rate. It can also act as a transpeptidase with maximal activity at pH 7.6-9.0.

Isoelectric point: 4.8-4.9

Extinction Coefficient:

87,890 cm⁻¹ M⁻¹ (Theoretical)

E1%,280= 16.57 (Theoretical)

Species

Clostridium histolyticum

Description

Clostripain (Endoproteinase-Arg-C) is a two chain proteinase associated with collagenase and isolated from Clostridium histolyticum. It is highly specific for the carboxyl peptide bond of arginine. Clostripain has a sulfhydryl requirement; it is activated by dithiothreitol, cysteine, or other sulfhydryl containing reagents. The presence of calcium ions is essential. The enzyme is inhibited by oxidizing agents and sulfhydryl reactants and by Co²⁺, Cu²⁺, Cd²⁺, and heavy metal ions. Citrate, borate, and Tris anions are less inhibitory.

Molecular Mass

53.0 kDa (Theoretical)

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Light chain: 12.5 kDa

Heavy chain: 45 kDa

Unit Definition

One Unit hydrolyzes one micromole of N-benzoyl-L-arginine ethyl ester per minute at 25 centigrade, pH 7.6, in the presence of dithiothreitol.

Applications

- Peptide mapping
- Sequence analysis
- Cell isolation
- Hydrolysis/condensation of amide bonds
- Peptide synthesis

GENE INFORMATION

Official Symbol

Clostripain

Synonyms

Clostripain; cloSI; EC:3.4.22.8; Clostridiopeptidase B; Clostripain light chain; Clostripain heavy chain; 9028-00-6

UniProt ID

[P09870](#)

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