

# CHYMOSIN A from *ESCHERICHIA COLI* K-12 containing the PROCHYMOSIN A GENE

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**SYNONYMS** Rennin, milk-clotting enzyme, chymosin, chymosin A, aspartyl protease

C.A.S. number 84484-18-4

**SOURCES** Produced intracellularly by the controlled fermentation of *Escherichia coli* K-12 containing the bovine prochymosin A gene. The strain is non-pathogenic and non-toxicogenic (for example, JA198). Prochymosin is liberated by cell disruption followed by harvesting of the prochymosin by centrifugation or membrane concentration and washing with buffer solution. The residual production cells are inactivated by acid treatment, then the prochymosin is dissolved in buffer solution and after pH adjustment the solution is filtered. Prochymosin is activated to chymosin by acid treatment, followed by final purification via anion-exchange chromatography and elution with a buffered salt solution.

Active principles Chymosin

Systematic names and numbers None (EC 3.4.23.4)

Reactions catalyzed Cleaves a single bond in kappa-casein

**DESCRIPTION** Clear, colourless or slightly coloured aqueous solution containing the active enzyme; preparations may contain caramel colour to facilitate their identification in cheese manufacture.

**FUNCTIONAL USES** Enzyme preparation  
Used in clotting of milk for cheese production

**GENERAL SPECIFICATIONS** Must conform to the General Specifications for Enzyme Preparations used in Food Processing (see Volume Introduction)

## CHARACTERISTICS

### IDENTIFICATION

Milk clotting activity  
(Vol. 4) The sample shows milk clotting activity