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ProductInformation

Chymopapain
from papaya latex

Product Number **C 8526**
Storage Temperature -0 °C

Product Description

Molecular weight: 27 kDa[1]
CAS Number: 9001-09-6
Enzyme Commission (EC) Number: 3.4.22.6
λ_{max}= 280 nm
Extinction coefficient: $E^{1\%}$= 18.7[1]

This enzyme cleaves peptide (amide) linkages. The carboxyl side of arginine residues are most susceptible,[7] but it will also cleave on the carboxyl side of leucine, glutamic acid, and alanine residues, as well as arginine esters.[1]

This enzyme has been used to detach cultured $CD34^+$ cells from beads (130 units/ml for 2 minutes, repeated three times).[2] Other examples of the use of chymopapain for cell dissociation have been published. For digestion of human intestinal tissue, chymopapain and pronase were found to be most effective.[3] For rabbit lung cells, chymopapain has been used at a concentration of 0.05% in calcium-magnesium-free Kreb's serum substitute, along wth pronase, collagenase, elastase, DNAse, and catalase.[4] Methods for the release of neuroblastoma cells from marrow bound to antibody-coated microspheres have been published.[5]

The method of enzyme assay used by Sigma for this product has been published.[6] The pH dependence of the activity of this enzyme using several substrates has also been published.[7] For example, the pH optimum for casein digestion is broad (pH 7-9); hemoglobin digestion is optimal at pH 4.0, but urea-denatured hemoglobin digestion is optimal at pH 7.0.[7]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in water (5 mg/ml), yielding a clear, colorless solution.

Storage/Stability

The enzyme can be diluted in water if a concentrated solution is made (at least several mg/ml). However, to insure stability for a more dilute solution (1 mg/ml), dissolve the protein in 0.05 M sodium acetate buffer, pH 6.2, containing 1 – 5 mM cysteine and 0.1 – 1 mM EDTA.

References

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