

Native *Streptomyces griseus* Pronase

Cat. No. NATE-0997

Lot. No. (See product label)

Introduction

Description Pronase is a mixture of several nonspecific endo- and exoproteases that digest proteins down to single amino acids.

Applications Use Pronase to completely hydrolyze proteins in research applications. Pronase is used for the degradation of proteins during the isolation of DNA and RNA, such as in the extraction of phage DNA or the isolation of plasmid DNA. It is not necessary to let pronase self-digest prior to use. It is also used in histochemistry and cell culture for tissue dissociation in conjunction with collagenase and trypsin, and for the production of glycopeptides from purified glycoproteins.

Synonyms non-specific protease

Product Information

Source *Streptomyces griseus*

Form Lyophilized powder

EC Number EC 3.4.24.4

CAS No. 70851-98-8

Activity ~7.0 units/mg protein (at 40°C with casein as the substrate, pH 7.5, equivalent to approximately 1270 PU/mg or approximately 25 PUK/mg.)

pH Stability 6.0 - 9.0

Optimum pH 7.0 - 8.0

Optimum temperature 35–40 °C

Specificity Pronase has a broad specificity, breaking down virtually all proteins into their individual amino acids; resolves carboxylic acids and alcohols.

Stabilizers Calcium ions: Calcium is highly effective in preventing pronase activity. The activity of a diluted solution containing 0.01–0.1 M calcium was stable over 24 hours at neutral pH at 4 to 8 °C. Pronase is also protected from heat inactivation by low levels of calcium.

Unit Definition A unit of non-specific protease activity increases the rate of release of folin-positive amino acids and peptides from casein, at +40 °C and pH 7.5. For one unit (U) 1 µmol/min tyrosine is released, and for the unit "PU", the value is 1 µg/minute (1 U = 181 PU); for the unit "PUK", it is 0.1/minute (measured is the change in absorbance of molybdenum blue, formed by reaction with the folin's reagent under conditions such that 1 PUK = 50 PU).

Usage and Packaging

Preparation Instructions Working concentration: 0.5 to 2 mg/ml Working solution: Solvent is recommended in distilled water. Stock solution is prepared by adding pronase powder to distilled water (10 to 20 mg/ml). Storage conditions (working solution): -15 to -25 °C

Storage and Shipping Information

Storage 2-8°C