Creative Enzymes®

Native Streptomyces griseus Protease

Cat. No. NATE-0634

Lot. No. (See product label)

Introduction

Description Protease from Streptomyces griseus is a mixture of at least three proteolytic activities including an extracellular serine protease. In general, serine proteases display a wide range of substrate specificities, which are believed to be mediated by an active site composed of one Asp, one His, and a Ser residue in the molecule. This enzyme prefers to hydrolyze peptide bonds on the carboxyl side of glutamic or aspartic acid.

Applications Protease is an enzyme used to break down proteins by hydrolyzing peptide bonds. Protease is used to degrade proteins, to study protease inhibitors and to study thermal inactivation kinetics. Protease is used in nucleic acid isolation procedures in incubations. Protease from Streptomyces griseus has been used in crystallographic and kinetic investigations of the covalent complex formed by tetrapeptide aldehydes and serine proteases. Protease is typically used in nucleic acid isolation procedures in incubations of 0.5-3.0 hours supplemented with 0.2% sodium dodecyl sulfate and 10 mM EDTA. The enzyme from Creative Enzymes has been used for the digestion and analysis of antithrombin-heparin complexes. It has also been used for the isolation of enzyme-resistant starch. This enzyme is more active at a higher pH range than the known alkaline protease, showing the proteolytic activity even in 0.2N NaOH solution. This enzyme is useful for proteolysis of insoluble protein and for structure investigation of protein.

Synonyms Protease; 9036-06-0; Actinase E, Pronase E

Product Information

Source Streptomyces griseus

Form powder

CAS No. 9036-06-0

Molecular Weight 20 kDa

Activity > 3.5 units/mg solid

Specificity A mixture of at least three proteolytic activities including an extracellular serine protease. In general, serine proteases display a wide range of substrate specificities, which are believed to be mediated by an active site composed of one Asp, one His, and a Ser residue in the molecule. This enzyme prefers to hydrolyze peptide bonds on the carboxyl side of glutamic or aspartic acid.

Unit Definition One unit will hydrolyze casein to produce color equivalent to 1.0 µmole (181 µg) of tyrosine per min at pH 7.5 at 37°C.

Storage and Shipping Information

Storage Store at −20°C.

Stability This protease is completely inactivated by heating above 80°C for 15-20 minutes. This enzyme is more active at a higher pH range, showing the proteolytic activity even in 0.2N NaOH solution. The protease is incubated for 10 minutes at pH 7.5 at 37°C in a 6 ml reaction volume containing 0.54% casein and 0.041 M potassium phosphate buffer. The reaction is stopped by the addition of 5.0 ml of 0.11 M trichloroacetic acid.