Creative Enzymes®

Native Tritirachium album Proteinase K

Cat. No. NATE-0221

Lot. No. (See product label)

Introduction

Description Proteinase K is a stable and highly reactive serine protease. Evidence from crystal and molecular structure studies indicates the enzyme belongs to the subtilisin family with an active-site catalytic triad (Asp39-His69-Ser224). It is stable in a broad range of environments:pH, buffer salts, detergents (SDS), and temperature. In the presence of 0.1-0.5% SDS, proteinase K retains activity and will digest a variety of proteins and nucleases in DNA preparations without compromising the integrity of the isolated DNA.

Applications Proteinase K is useful for the proteolytic inactivation of nucleases during the isolation of DNA and RNA. It is used for the removal of endotoxins bound to cationic proteins such as lysozyme and ribonuclease A. It is also useful for the isolation of hepatic, yeast, and mung bean mitochondria and is used to determine enzyme localization on membranes. Furthermore, it is used for the treatment of paraffin embedded tissue sections to expose antigen binding sites and for digestion of proteins from brain tissue samples. The product has been used to study its pre-treatment effects on the silk fibroin. The aspects analysed in this study included the crystallographic properties of hydroxyapatite (HAp), and the microstructure and microhardness of the composites. The enzyme has also been used to facilitate the access of probes to rRNA using FISH techniques to detect pathogenic Staphylococcus aureus. Useful for the proteolytic inactivation of nucleases during the isolation of DNA and RNA. Removes endotoxins that bind to cationic proteins such as lysozyme and ribonuclease A. Reported useful for the isolation of hepatic, yeast, and mung bean mitochondria Determination of enzyme localization on membranes Treatment of paraffin embedded tissue sections to expose antigen binding sites for antibody labeling. Digestion of proteins from brain tissue samples for prions in Transmissible Spongiform Encephalopathies (TSE) research.

Synonyms Tritirachium alkaline proteinase; Tritirachium album serine proteinase; proteinase K; Tritirachium album proteinase K; endopeptidase K; EC 3.4.21.64; 39450-01-6

Product Information

Source	Tritirachium album
Form	lyophilized powder or buffered aqueous glycerol solution
EC Number	EC 3.4.21.64
CAS No.	39450-01-6
Molecular Weight	28.93 kDa
Activity	3.0-15.0 unit/mg solid; > 30 units/mg protein, ; > 800 units/mL; > 500 units/mL
Unit Definition	One unit will hydrolyze urea-denatured hemoglobin to produce color equivalent to 1.0 µmole of tyrosine per min at pH 7.5 at 37°C.