

Proteinase K

Cat. No. CMC05 **Lot. No.** (See product label)

SPECIFICATION

Source Tritirachium Album Limber

Description

Proteinase K (also protease K or endopeptidase K) EC 3.4.21.64 is a broad-spectrum serine protease. The enzyme was discovered in 1974 in extracts of the fungus *Engyodontium album* (formerly *Tritirachium album*). Proteinase K is able to digest native keratin (hair), hence, the name "Proteinase K". The predominant site of cleavage is the peptide bond adjacent to the carboxyl group of aliphatic and aromatic amino acids with blocked alpha amino groups. It is commonly used for its broad specificity. Proteinase K is commonly used in molecular biology to digest protein and remove contamination from preparations of nucleic acid. Addition of proteinase K to nucleic acid preparations rapidly inactivates nucleases that might otherwise degrade the DNA or RNA during purification. It is highly-suited to this application since the enzyme is active in the presence of chemicals that denature proteins, such as SDS and urea, chelating agents such as EDTA, sulfhydryl reagents, as well as trypsin or chymotrypsin inhibitors. Proteinase K is also stable over a wide pH range (4-12), with a pH optimum of pH 7.5-12.

Molecular Weight 29,730Da

Form Contains 100mg Proteinase K, Lyophilized Powder

Specific Activity 40U/mg protein, 17.5U/mg dry weight

DNase Activity none detectable enzyme activity with λ DNA after 6 hours incubation at 37°C.

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RNase Activity	none detectable of ribnuclease activity after 16hours incubation at 25 ° C
Unit Definitions	one unit is defined as the amount of enzyme that will liberate 1 μmol of tyrosine per minute at 37° C, pH7.5
Applications	Proteinase K is a broad substrate non-specific serine Proteinase. It is very stable at pH 4-12. It was used on isolating mRNA, genomic DNA and digesting unwanted proteins during DNA and RNA preparations from different kinds of cells. It's been used on glycoprotein modification and protein structure studies also. Proteinase K is active with SDS, urea and EDTA.
Storage Conditions	Store vial at 2-4°C upon receipt. Dissolve and aliquot and store at -20°C recommended. Expiration date is one year of powder and six months of sterile liquid at -20 °C to 4°C. Use sterile filtration for liquid enzyme storage if keep it at 2-8°C over a week.
Storage Buffer	20mM Tris-HCL (pH7.4), 1mM CaCl ₂ , 50% Glycerol. (Dilution buffer without glycerol)

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