

GFzyme-Proteinase K

Proteinase K

◆ GFzyme-Proteinase K Description

- GFzyme-Proteinase K is a serine protease originally isolated from fungus *Engyodontium album* expressed in recombinant yeast.
- Proteinase K is widely used in molecular biological and biopharmaceutical applications to remove protein contamination from preparations of native high molecular genomic nucleic acids.
- It is stable in a broad range of conditions: 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.

◆ GFzyme-Proteinase K Applications

- Isolation of genomic DNA from cultured cells and tissues
- Removal of DNases and RNases when isolating DNA and RNA from tissues or cell lines
- Improving cloning efficiency of PCR products

◆ GFzyme-Proteinase K Properties

- Unit Definition: One unit of the enzyme liberates Folin-positive amino acids and peptides corresponding to 1 μ mol tyrosine in 1 min at 37°C , pH 7.5 using denatured hemoglobin as substrate.

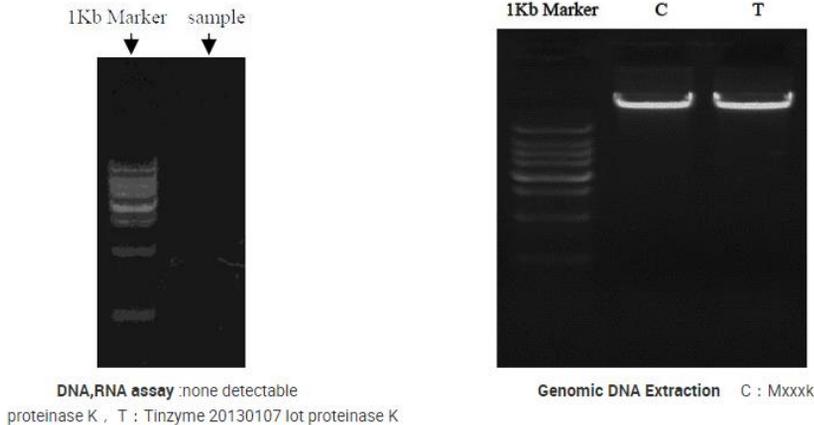
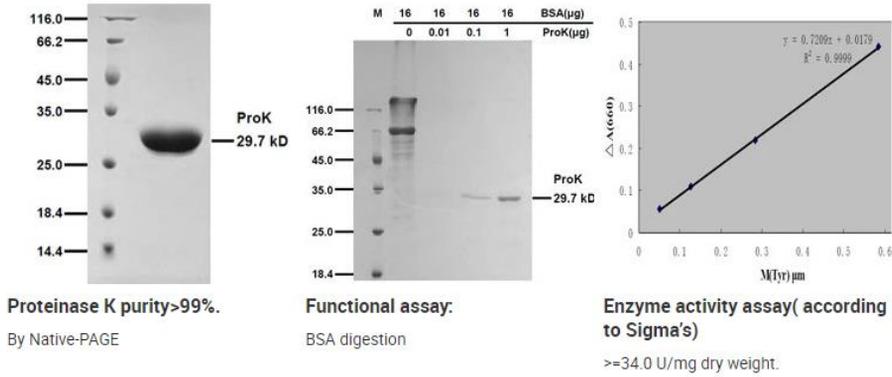
Appearance	White lyophilized powder
Electrophoretic purity	$\geq 99\%$
Enzyme activity	≥ 34 U/mg protein
Molecular Mass	29.3 kD
Nucleic acid residue	Invisible
Deoxyribonuclease residue	Invisible
Ribonuclease residue	Invisible

◆ GFzyme-Proteinase K Stock solution preparation

- Stock solution can be prepared as 40-80 mg/ml in dilution buffer [20mM Tris-HCl (pH 7.4) , 1 mM CaCl₂] or [20mM Tris-HCl (pH 7.4) , 1 mM CaCl₂, 2% Glycerol], sterilized using a 0.22 μ m filter and supplied at final concentration of 20-40mg/ml in 50% sterilized Glycerol. Store in aliquots at wide temperature range from 24°C to -80°C.
- PES or PVDF membranes with low protein binding are recommended in sterile filtration.

Data:

Detailed Images



◆ **Inhibition and Inactivation**

- Inhibitors: Proteinase K is not inactivated by metal chelators, by thiol-reactive reagents or by specific trypsin and chymotrypsin inhibitors. Phenylmethylsulfonyl fluoride and diisopropyl phosphorofluoridate completely inhibit the enzyme.
- Inactivated by heating at 95°C for 10 minutes.

◆ **Package and Storage**

- Package unit: negotiable
- Storage: at -20 °C, the product retains activity for at least 2 years.
- The enzyme is supplied in 50 mM Tris-HCl (pH 7.5), containing Ca²⁺and glycerol as stabilizers.