

GFzyme-Proteinase K

Proteinase K

◆ GFzyme-Proteinase K Description

- GFzyme-Proteinase K is a recombinant serine protease originated from fungus *Tritirachium album*.
- 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.

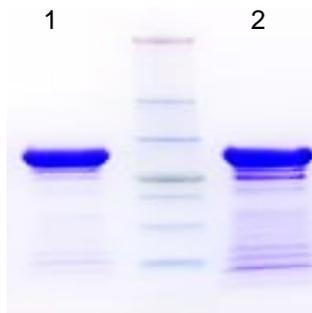
Appearance	White lyophilized powder or liquid
Electrophoretic purity	$\geq 95\%$
Enzyme activity	≥ 30 U/mg powder 20 mg/ml in 50% glycerol buffer
Molecular Mass	28.9 kDa
Nucleic acid residue	Invisible
Deoxyribonuclease residue	Invisible
Ribonuclease residue	Invisible

◆ GFzyme-Proteinase K Stock solution preparation

- Lyophilized powder: Stock solution can be prepared as 40-80 mg/ml in deionized sterile water.
- Liquid form: It is supplied at final concentration of 20 mg/ml in Tris-based 50% glycerol buffer . Store in aliquots at wide temperature range from -20°C to -80°C.
- PES or PVDF membranes with low protein binding are recommended in sterile filtration.

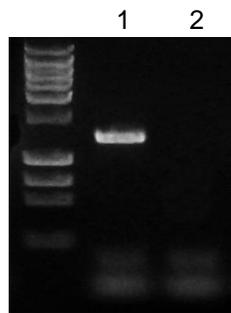
◆ Purity Assay

SDS-PAGE analysis



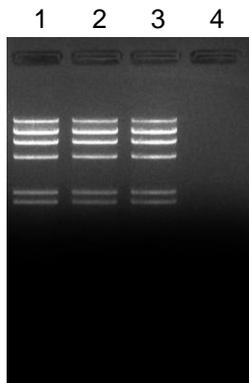
1. GFzyme-Proteinase K
2. B company

Host DNA contamination analysis



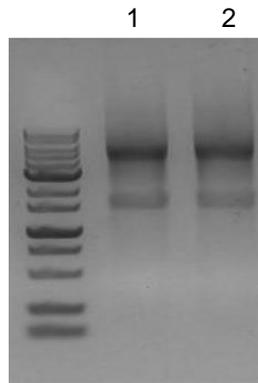
1. PCR with production host cell
2. PCR with GFzyme-Proteinase K

DNase contamination analysis



1. λ *Hind*III
2. λ *Hind*III + GFzyme-Proteinase K
3. λ *Hind*III + B company Proteinase K
4. λ *Hind*III + DNase

RNase contamination analysis



1. Human total RNA + GFzyme-Proteinase K
2. Human total RNA + B company Proteinase K

◆ 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: 10 g, 20g, 100 g
- Storage: at -20 °C, the product retains activity for at least 2 years.
- The enzyme is supplied in lyophilized powder or liquid containing glycerol as stabilizers.