

Proteinase K Powder (RNase-Free, DNase-Free)

Product description

Proteinase K is a serine protease with a wide range of cleavage activity. Its relative molecular weight is about 29 kDa, and it can cleave the carboxyl-terminal peptide bonds of aliphatic and aromatic amino acids. Proteinase K is widely used and can be used to prepare chromosomal DNA for pulsed electrophoresis, protein blotting, and remove nucleases in DNA and RNA preparation. Denaturants such as SDS (1%) can increase its activity. The commonly used working concentration is 50-100 µg/mL. The specific working concentration is determined by factors such as whether the buffer used contains SDS, urea, pH, temperature, etc.

Specifications

Cat.No.	10401ES60/ 10401ES80 /10401ES90/10401ES95/ 10401ES98
Size	100 mg /1 g/5 g/10 g/100 g

Components

Name	10401ES60	10401ES80	10401ES90	10401ES95	10401ES98
Proteinase K Powder (RNase-Free, DNase-Free)	100 mg	1 g	5 g	10 g	100 g

Storage

This product should be stored at 2~8°C for 3 years. For longer term storage, it can be stored in a freezer at -25~-15°C.

Instructions

1. Preparation of 20-40 mg/mL Proteinase K stock solution

1) Dissolve the dry powder in dilution buffer to prepare 40-80 mg/mL stock solution;

[Note]: Dilution buffer formula: 20 mM Tris-HCl (pH7.4), 1 mM CaCl₂.

2) Filter and sterilize using a 0.22 µm filter with low protein adsorption;

3) Add an equal volume of sterile glycerol to prepare a Proteinase K stock solution containing 50% glycerol.

[Note]: Proteinase K stock solution can be stored at 4°C for 2 years. If it needs to be used repeatedly, it needs to be stored in aliquots.

2. Add the specified amount of Proteinase K stock solution according to the instructions for nucleic acid extraction.

Component properties

1) This product is derived from a genetically recombinant yeast strain;

2) Specific activity: ≥30 U/mg protein;

- 3) It does not contain RNase and DNase;
- 4) It is active and stable in urea and SDS;
- 5) It is active in a wide pH range (pH 4.0 – 12.0), and the optimal pH range is pH 7.5 - 9.0;
- 6) Reaction conditions: Incubate in the reaction buffer at a reaction temperature of 37°C - 70°C for 1 h.
- 7) Definition of activity unit: At 37°C and pH 7.5, the amount of Proteinase K required to release 1 μ M tyrosine per minute is defined as 1 activity unit;
- 8) Inactivation method: Add PMSF or DFP inhibitor to the reaction system for inactivation, and incubate at 65°C for 10-15 min for partial inactivation.

Notes

1. For your safety and health, please wear a lab coat and disposable gloves when operating.
2. If it needs to be used repeatedly after activation, it needs to be frozen in a refrigerator at -20°C to -80°C or prepared into a solution, filtered, sterilized, and stored in aliquots.
3. This product is for scientific research purposes only!