

Proteinase K Solution

Catalog No.	Pack Size and Concentration	Components
AZ-3201	5 mL (20 mg/mL)	Proteinase K Solution - 1 x 5 mL
AZ-3205	25 mL (20 mg/mL)	Proteinase K Solution - 5 x 5 mL
AZ-3220	100 mL (20 mg/mL)	Proteinase K Solution - 20 x 5 mL

Description

Proteinase K Solution is provided as a 20 mg/mL solution and is of molecular biology grade. It is a broad-spectrum serine protease with very high specific activity. Proteinase K is a recombinant enzyme expressed in *Pichia pastoris*, and undergoes extensive purification to yield the highest quality product. It is active under a wide range of reaction conditions, including elevated temperatures and in the presence of SDS. As a result, Proteinase K is widely used for the digestion of proteins, including DNases and RNases, during nucleic acid preparations without compromising the integrity of isolated DNA or RNA. Proteinase K is free of exonucleases, endonucleases, and ribonucleases.

- Free of exonucleases, endonucleases, and ribonucleases.
- Molecular Biology Grade
- Low residual DNA content (≤ 200 pg/mL).
- Stable over a wide pH range: 4.0 – 12.5 (optimum pH 7.5 – 8.0).
- Molecular biology applications include protein digestion, isolation and purification of nucleic acids, isolation of mitochondria, and removal of nucleases, including DNases and RNases

Storage

Storage of Proteinase K Solution at -20°C is recommended.

Recommendations for Use

Proteinase K Solution is provided in a convenient, ready-to-use 20 mg/mL concentration. The solution contains 10 mM Tris-HCl, pH 7.5, 1 mM $(\text{CH}_3\text{COO})_2\text{Ca}$, and 50% glycerol, providing an activity level of ≥ 800 U/mL.

Important Guidelines

Protein concentration: Protein concentration is determined by measuring absorbance at 280 nm.

Exonuclease activity: Free of detectable exonucleases activity as judged by gel electrophoresis following incubation of 1 μg of HindIII-digested λ DNA with 50 μg of Proteinase K for 16 h at 37°C .

Endonuclease activity: Free of detectable endonucleases activity as judged by gel electrophoresis following incubation of 1 μg pUC19 DNA with 40 μg of Proteinase K for 16 h at 37°C .

RNase activity: Free of detectable RNase activities as judged by gel electrophoresis following incubation of 2 μg rRNA from *E. coli* with 20 μg of Proteinase K for 4 h at 37°C .

DNA content: DNA content is ≤ 200 pg/mL, which is determined by qPCR.

Quality Control

Our Proteinase K activity measurements demonstrate very low batch-to-batch variability. Such a high reproducibility enables stable working conditions, and therefore repeatable and reliable experiment results.

	Proteinase K Solution
Source	<i>Parengyodontium album</i> (<i>Tritirachium album</i>)
Host	<i>Komagataella phaffii</i> (<i>Pichia pastoris</i>)
Activity	≥ 80 U/mL
Specific Activity	≥ 800 U/mL
Unit Definition	One unit of Proteinase K hydrolyzes urea-denatured hemoglobin producing color equivalent of 1 μmol tyrosine per 1 min at 37°C and pH 7.5 (Folin & Ciocalteu's method), 1 U = 1 mAnsonU.
Protein Content	≥ 20 mg/mL
DNA Contamination	≤ 200 pg/mL
Storage Conditions	-20°C
Shelf Life	24 months

Technical Support

For trouble-shooting and technical guidance, please contact us at tech@azuragenomics.com and provide reaction parameters.

Limitations of Use

This product is intended for research purposes and is not intended for any animal or human therapeutic use.