

Proteinase K Solution (20mg/ml) (Ready to used, Room Temperature)

Introduction

Proteinase K is a stable serine protease with broad substrate specificity. It degrades many proteins in the native state even in the presence of detergents. It is not activated by metal ions, chelating agents (for example, EDTA), sulfhydryl reagents, or by trypsin or chymotrypsin inhibitors. It is stable over a wide pH range (4–12.5), with optimal activity at pH 6.5–9.5. Activity can be stimulated by addition of denaturing agents (SDS and Urea). Rapid denaturation of the enzyme occurs at temperature above 70°C. Autolysis of the enzyme occurs increasingly at alkaline pH. However, Proteinase K is not completely inactivated by autolysis. Some enzyme fragments continue to maintain their complete proteolytic activity, even after extensive autolysis.

Proteinase K is frequently used in molecular biology applications to digest unwanted proteins, such as nucleases in DNA or RNA preparations from microorganisms, cultured cells, and plants. The enzyme is typically used at 50–200 ug/ml in nucleic acid preparations at pH 7.5–8.0 and 37~55°C. Incubation times vary from 30 minutes to 18 hours.

Ordering information

CAT.No.	Product Name	Package
C12103	Proteinase K Solution (20mg/ml)	10 ml
C12104	Room temperature for 1 year	1000 ml

Specification

CAS No	39450-01-6
Molecular Weight	29.3kDa
Isoelectric Point	8.9
Purity	95% (SDS-PAGE)
Specific Activity	≥600 Units/ml
Temperature Characteristic	70°C (maximum activity temperature) (effective activity temperature is 37-70°C)
PH characteristics	4.0-12.0, the optimum range is ph7.5-11.5. In digestive juice, 65 degrees
Preservation Conditions	It is recommended to store at low temperature to ensure the stability of activity to the greatest extent (normal temperature transportation or storage will not reduce enzyme activity). The shelf life at room temperature is up to 1 year.
Usage method	Proteinase K was added to the digestive solution or lysate until the final concentration was 50-200ug/ml and incubated at 55~70°C. Proteinase K after reaction can be removed or inactivated by magnetic bead method, over column method or phenol chloroform extraction. Protease K can be inactivated by incubation at 95°C for 3 minutes or 70°C for 15 minutes
Nucleic acid residue detection	Qubit quantification, ≤ 1ppm. No human source DNA contamination (not detected by real time PCR)
Nuclease detection	DNase not detected, RNase not detected
Recommended application	Tissue and cell DNA extraction, Viral Nucleic acid Isolation