Proteinase K

For Research Use Only

Cat. No.: MO٥٤٢١ **Concentration**: ٢٠mg/ml
Store at: ٢-٨ °C **Quantity:** ١ml

Description:
Proteinase K is an endolytic protease that cleaves peptide bonds at the carboxylic sides of aliphatic, aromatic or hydrophobic amino acids. The Proteinase K is classified as a serine protease. The smallest peptide to be hydrolyzed by this enzyme is a tetrapeptide.

Applications:

Isolation of genomic DNA from mouse tail.
Isolation of genomic DNA from cultured cells.
Removal of DNases and RNases when isolating DNA and RNA from tissues or cell lines.
Determination of enzyme localization.
Improving cloning efficiency of PCR products.

Source: *Pichiapastoris*cells with a cloned gene from *Tritirachium album.*

Molecular Weight: ٢٨,٩kDa monomer

Storage Buffer:
The enzyme is supplied in: ١٠mM Tris-HCl (pH ٧,٥), containing calcium acetate and ٥٠٪ (v/v) glycerol.

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 ٦٥°C for ٢٠ min.

Note:

The recommended working concentration for Proteinase K is ٠,٠٥-١mg/ml. The activity of the enzyme is stimulated by ٠,٢-١٪ SDS or by ١-٤M urea.

Ca^{2+} protects Proteinase K against autolysis, increases the thermal stability and has a regulatory function for the substrate binding site of Proteinase K.
Stable over a wide pH range: ٤,٠-١٢,٥, optimum pH ٧,٥-٨,٠

Quality Control Assay Data

Endodeoxyribonuclease Assay:

No conversion of covalently closed circular DNA to nicked DNA was detected after incubation of ٤٠ µg of Proteinase K with ١µg of pUC١٩ DNA for ٤ hours at ٣٧°C.

Ribonuclease Assay:

No detectable RNA degradation after incubation of ٨٠ng of ٢kb RNA transcript with ٤٠µg of Proteinase K for ٤ hours at ٣٧°C.

Labeled Oligonucleotide (LO) Assay:

No degradation of single-stranded and double-stranded labeled oligonucleotide was observed after incubation with ٤٠µg of Proteinase K for ٤ hours at ٣٧°C.

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