

Proteinase K

Cat. No.: MO5421

Store at: -20°C

Concentration: 20mg/ml

Quantity: 1ml

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.

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

Molecular Weight: 28.9kDa monomer

Storage Buffer:

The enzyme is supplied in: 10mM Tris-HCl (pH 7.5), containing calcium acetate and 50% (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 65°C for 20 min.

Note:

- The recommended working concentration for Proteinase K is 0.05-1mg/ml. The activity of the enzyme is stimulated by 0.2-1% SDS or by 1-4M urea.
- Ca²⁺ 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: 4.0-12.5, optimum pH 7.5-8.0

Quality Control Assay Data

Endodeoxyribonuclease Assay:

- No conversion of covalently closed circular DNA to nicked DNA was detected after incubation of 40 µg of Proteinase K with 1µg of pUC19 DNA for 4 hours at 37°C.

Ribonuclease Assay:

- No detectable RNA degradation after incubation of 80ng of 2kb RNA transcript with 40µg of Proteinase K for 4 hours at 37°C.

Labeled Oligonucleotide (LO) Assay:

- No degradation of single-stranded and double-stranded labeled oligonucleotide was observed after incubation with 40µg of Proteinase K for 4 hours at 37°C.
- For Research Use Only

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