



## Proteinase K

Proteinase K Lyophilized powder	200 mg
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### **For research use only**

Cat No: YT9053

Size: 200 mg

Store at  $-20^{\circ}\text{C}$

#### **Description:**

Proteinase K is a highly reactive nonspecific serine protease that belongs to the subtilisin family of proteins. It cleaves at the carboxylic acid side of aliphatic, aromatic, or hydrophobic amino acids. Proteinase K is capable of inactivating RNases and DNases and is used in the isolation or preparation of high molecular weight nucleic acids. Proteinase K is stable in a wide variety of detergents and buffer salts and at various temperatures and pH. Proteinase K is also activated by heat at an optimal range of 50-65°C, dependent on your sample type. Proteinase K is active in a pH between 7.5 and 12.0, optimal activity at pH 8.0. The use of Proteinase K during lysis of the cells allows the isolation of intact highly-molecular nucleic acids.

**Source:** Yeast cells with cloned gene encoding Engyodontium album (Tritirachium album) endolytic protease.

**Specifications: Weight:** 28.5 KD, **Activity:**  $\geq 30$  U/mg

**Storage/Handling:** Lyophilized Powder, Store desiccated at  $-20^{\circ}\text{C}$  for up to **2 years**. Stock Solution, aliquot your stock solution and store at  $-20^{\circ}\text{C}$  for up to **1 year**. Avoid multiple freeze-thaw cycles or exposure to frequent temperature changes.

**Unit definition:** Unit definition One unit is the amount of enzyme which releases at 37°C in 1 min as many folin-positive amino acids and peptides from hemoglobin as 1  $\mu\text{mol}$  of tyrosine.

**Features:** Active with or without the presence of SDS, urea, EDTA or various metal ions, but the activity of proteinase K can be increased by adding the denaturing agents and the structure of proteinase K can be stabilized by addition of  $\text{Ca}^{2+}$ . Proteinase K activators include SDS (sodium dodecyl sulfate) and urea. Generally, proteinase K becomes more stable and more active when in buffers that contain these activators.

**Inactivation:** Inactivated by heating to 95°C for 10 minutes or using an inhibitor such as PMSF, AEBSF or DFP.

#### **Notes before starting:**

- It's a lyophilized powder, spin the vial before preparation.
- The volume of solution used for preparation depends on the concentration you need in test. Notice that you can make a stock solution with higher concentration and make a aliquote of lower concentration in lower volume

Concentration (mg/ml)	Volume of solution
200 mg	1ml
100 mg	2ml
50 mg	4ml
20 mg	10ml

#### **Preparation:**

- 1- Proteinase K is very water soluble, dissolve in purified water
- 2- Reconstitute in 50Mm Tris-Hcl(PH 8.0),3Mm CaCl<sub>2</sub>

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