Proteinase K, Recombinant

Catalog Numbers 25530015 and 25530031

Doc. Part No. 25530015.pps Pub. No. MAN0001455 Rev. C

WARNING! Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves. Safety Data Sheets (SDSs) are available from thermofisher.com/support.

Product description

Proteinase K is a non-specific serine protease. 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). The optimal temperature for the enzyme is 65°C (12 times more active at 65°C than at 25°C). Rapid denaturation of the enzyme occurs at temperatures above 65°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.

Contents and storage

Item	Cat. No. 25530015	Cat. No. 25530031	Storage
Proteinase K, Recombinant, ≥30 Units/mg[1]	100 mg	1 g	2°C–8°C

[1] One mAnson unit is described as that amount of enzyme that liberates 1 µmole of Folin-positive amino acid within one minute at 37°C, using hemoglobin as a substrate.

Reconstitute Proteinase K

Reconstitute the Proteinase K, using one of the following options:

- Dissolve in 10 mM Tris HCl (pH 7.5), 20 mM calcium chloride, and 50% glycerol, then store at –20°C.
- Dissolve in 50 mM Tris HCl (pH 8.0), 1–5 mM calcium acetate, then store at 2°C–8°C.

Note: Storage at –20°C in the absence of glycerol can cause precipitation of the Proteinase K. Bacterial growth can occur in solutions stored at 2°C–8°C over prolonged periods of time. Ca^{2+} can serve as a stabilizer to suppress autolysis.

Applications

Proteinase K is used to rapidly inactivate endogenous nucleases, such as RNases and DNases when isolating RNA or DNA from tissues and cell lines. This enzyme can also be used to remove nucleases in the preparation of tissue sections for *in situ* hybridization.

Limited product warranty

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For descriptions of symbols on product labels or product documents, go to thermofisher.com/symbols-definition.

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