

Proteinase K



Product Name	Proteinase K
Catalog No	IT-000-proK
Source	Recombinant protein from <i>Pichia pastoris</i> .
Formulation	White lyophilized powder or clear colorless 10 mM Tris-HCl (pH 7.5) with 50% glycerol.
Protein	Proteinase K is a broad-spectrum serine protease from <i>Tritirachium album limber</i> . It capable of cleaving peptide bonds at the carboxylic sides of aliphatic, aromatic, or hydrophobic amino acids in a broad range of conditions -- in pH from 4 to 12; in presence of 0.2-1% SDS, 1-4M urea and EDTA; at temperature between 15 °C to 75 °C. Its M.W. is 29.3kD.
Applications	Proteinase K is widely used in DNA/RNA preparations from tissue or cell cultures, and other industries.
Activity	≥ 30 U/mg (lyophilized powder) or ≥ 600 U/ml (liquid); No detectable RNAase and DNAase activity.
Definition of Activity Unit	One unit of the enzyme liberates Folin-positive amino acids and peptides corresponding to 1μmol tyrosine in 1 min at 37°C using denatured hemoglobin as substrate. Enzyme activity is assayed in the following mixture: 0.08 M potassium phosphate (pH 7.5), 5 M urea, 4 mM NaCl, 3 mM CaCl ₂ and 16.7 mg/ml hemoglobin.
Storage	Keep it at 4°C if used within a month. For long term storage, split it into small aliquots and keep at -80°C. Avoid repeated freezing and thawing. The product will be expired one year after receiving if stored properly. Non-hazardous. No MSDS required.
Use Limitation	For research use only, not for use in diagnostic procedures.
Note	The recommended working concentration for Proteinase K is 0.05-1 mg/ml. Its activity is completely inhibited by Phenylmethylsulfonyl fluoride (PMSF) and diisopropyl phosphorofluoridate (DFP or DIFP).
Reference	Ebeling, W., et al., Proteinase K from <i>Tritirachium album Limber</i> , Eur. J. Biochem., 47, 91-97, 1974.