# Proteinase K

## PRODUCT DESCRIPTION

**Cat. no.: RP100N-RP103N**
**Version 01.2018**

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| **Product** | **Proteinase K – Lyophilized powder, NGS Grade** |
| **Cat. no.** | RP100N, RP101N, RP102N, RP103N |
| **Appearance** | White lyophilized powder |
| **Product characteristics** | Proteinase K from *Parengyodontium album* (*Tritirachium album*) is a subtilisin-related serine protease. It is a broad spectrum endopeptidase with very high specific activity. It is widely used for digestion of proteins, including DNases and RNases, during nucleic acid preparations without compromising integrity of isolated DNA or RNA. Proteinase K is active under wide range of reaction conditions, including elevated temperatures and presence of SDS. This recombinant enzyme is expressed in *Pichia pastoris*, and undergoes extensive purification to yield the highest quality product. An extra purification step results in significantly increased solubility (2.5 fold), increased specific activity, and decreased DNA content, compared to our Molecular Biology Grade product. |
| **Solubility in water** | ≥ 50 mg/ml |
| **Stock solution preparation** | 20-50 mg/ml solutions: use purified water for immediate use, or 50% glycerol in purified water (v/v) for long-term storage at -20˚C.<br>< 20 mg/ml solutions: use 50 mM Tris-HCl, pH = 7.8, 3 mM $CaCl_2$ for immediate use, or 50 mM Tris-HCl, pH = 7.8, 3 mM $CaCl_2$ , 50% glycerol for long-term storage at -20˚C. |
| **Activity** | ≥ 35 U/mg lyophilizate<br>≥ 45 U/mg protein<br>One unit of Proteinase K hydrolyzes urea-denaturated hemoglobin producing color equivalent of 1 µmol tyrosine per 1 min at 37°C and pH = 7.5 (Folin & Ciocalteu's method), 1 U = 1 mAnsonU. |
| **Protein content** | ≥ 70%<br>Protein content is determined by measuring absorbance at 280 nm. |
| **DNA content** | ≤ 0.1 pg/mg by qPCR |
| **Exonucleases** | 1 µg of HindIII-digested λ DNA is incubated with 50 µg Proteinase K for 16 h at 37˚C. No DNA degradation is detectable. |
| **Endonucleases** | 1 µg of pUC19 DNA is incubated with 40 µg Proteinase K for 16 h at 37˚C. No DNA degradation is detectable. |
| **Ribonucleases** | 2 µg of rRNA from *E. coli* is incubated with 20 µg Proteinase K for 4 h at 37˚C. No RNA degradation is detectable. |
| **Stability** | The powder maintains full activity for at least 24 months from the release date. |
| **Long-term storage** | -20°C (as a powder, or as a stock solution in 50% glycerol, prepared as described above under "Stock solution preparation") |
| **Shipping conditions** | Ambient temperature |



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