Product Name: Proteinase K, Molecular Biology Grade
Catalog Number: P8107S
Concentration: 800 U/ml
Unit Definition: One unit will digest urea-denatured hemoglobin at 37°C (pH 7.5) per minute to produce equal absorbance as 1.0 µmol L-tyrosine using Folin & Ciocalteu's phenol reagent.

Packaging Lot Number: 10204667
Expiration Date: 08/2026
Storage Temperature: -20°C
Storage Conditions: 20 mM Tris-HCl, 1 mM CaCl2, 50% Glycerol, (pH 7.4 @ 25°C)
Specification Version: PS-P8107S v2.0

## Proteinase K, Molecular Biology Grade Component List

<table>
<thead>
<tr>
<th>NEB Part Number</th>
<th>Component Description</th>
<th>Lot Number</th>
<th>Individual QC Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>P8107SVIAL</td>
<td>Proteinase K, Molecular Biology Grade</td>
<td>10200286</td>
<td>Pass</td>
</tr>
</tbody>
</table>

## Assay Name/Specification

### Endonuclease Activity (Nicking)
A 50 µl reaction in CutSmart® Buffer containing 1 µg of supercoiled PhiX174 RF I DNA and a minimum of 0.8 units of Proteinase K, Molecular Biology Grade incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.

Lot # 10204667, Pass

### Exonuclease Activity (Radioactivity Release)
A 50 µl reaction in CutSmart® Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 8 units of Proteinase K, Molecular Biology Grade incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.

Lot # 10204667, Pass

### Non-Specific DNase Activity (16 Hour)
A 50 µl reaction in CutSmart® Buffer containing 1 µg of Lambda-HindIII DNA and a minimum of 0.8 units of Proteinase K, Molecular Biology Grade incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

Lot # 10204667, Pass

### RNase Activity (Extended Digestion)
A 10 µl reaction in NEBuffer 4 containing 40 ng of fluorescein labeled RNA

Lot # 10204667, Pass
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Transcript and a minimum of 0.8 units of Proteinase K, Molecular Biology Grade is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection. | Pass

**Single Stranded DNase Activity (FAM-Labeled Oligo)**
A 50 µl reaction in CutSmart® Buffer containing a 20 nM solution of a fluorescent internal labeled oligonucleotide and a minimum of 4 units of Proteinase K, Molecular Biology Grade incubated for 16 hours at 37°C yields <5% degradation as determined by capillary electrophoresis. | Pass

**qPCR DNA Contamination (Eukaryotic Genomic)**
A minimum of 1.6 units of Proteinase K, Molecular Biology Grade is screened for the presence of eukaryotic genomic DNA using SYBR® Green qPCR with universal primers for the 18S rRNA locus. Results are quantified using a standard curve generated from purified E. album genomic DNA. The measured level of eukaryotic genomic DNA contamination is ≤ 2.5 pg DNA/µl. | Pass

This product has been tested and shown to be in compliance with all specifications.

One or more products referenced in this document may be covered by a 3rd-party trademark. Please visit [www.neb.com/trademarks](http://www.neb.com/trademarks) for additional information.

Beth Paschal
Production Scientist
07 Aug 2023

Michael Tonello
Packaging Quality Control Inspector
16 Aug 2023