

## New England Biolabs Certificate of Analysis

**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.  
**Lot Number:** 10016569  
**Expiration Date:** 07/2020  
**Storage Temperature:** -20°C  
**Storage Conditions:** 20 mM Tris-HCl, 1 mM CaCl<sub>2</sub>, 50% Glycerol, (pH 7.4 @ 25°C)  
**Specification Version:** PS-P8107S v1.0

Proteinase K, Molecular Biology Grade Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
P8107SVIAL	Proteinase K, Molecular Biology Grade	10009401	Pass

Assay Name/Specification	Lot # 10016569
<p><b>Endonuclease Activity (Nicking)</b>            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 &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	<b>Pass</b>
<p><b>Exonuclease Activity (Radioactivity Release)</b>            A 50 µl reaction in CutSmart® Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup>H ] E. coli DNA and a minimum of 8 units of Proteinase K, Molecular Biology Grade incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</p>	<b>Pass</b>
<p><b>Non-Specific DNase Activity (16 Hour)</b>            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.</p>	<b>Pass</b>
<p><b>qPCR DNA Contamination (Eukaryotic Genomic)</b>            A minimum of 1.6 units of Proteinase K, Molecular Biology Grade is screened for the</p>	<b>Pass</b>

Assay Name/Specification	Lot # 10016569
<p>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 <math>\leq 2.5</math> pg DNA/<math>\mu</math>l.</p>	
<p><b>RNase Activity (Extended Digestion)</b> A 10 <math>\mu</math>l reaction in NEBuffer 4 containing 40 ng of fluorescein labeled RNA transcript and a minimum of 0.8 units of Proteinase K, Molecular Biology Grade is incubated at 37°C. After incubation for 16 hours, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p>	<b>Pass</b>
<p><b>Single Stranded DNase Activity (FAM-Labeled Oligo)</b> A 50 <math>\mu</math>l 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 &lt;5% degradation as determined by capillary electrophoresis.</p>	<b>Pass</b>

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



Beth Paschal  
Production Scientist  
06 Jul 2018



Michael Tonello  
Packaging Quality Control Inspector  
03 Aug 2018