NEW ENGLAND BioLabs Inc.
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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:	*10018079*
Expiration Date:	*07/2020*
Storage Temperature:	*-20°C*
Storage Conditions:	*20 mM Tris-HCl, 1 mM CaCl2, 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 # 10018079**
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**
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 37ºC results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	**Pass**
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart® Buffer containing 1 µg of a mixture of single and double-stranded [^{3}H] E. coli DNA and a minimum of 8 units of Proteinase K, Molecular Biology Grade incubated for 4 hours at 37ºC releases <0.1% of the total radioactivity.	**Pass**
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart® Buffer containing 1 µg of Lambda-HindIII DNA and a	**Pass**

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Assay Name/Specification	Lot # 10018079
minimum of 0.8 units of Proteinase K, Molecular Biology Grade incubated for 16 hours at 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	
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**
RNase Activity (Extended Digestion) A 10 µl 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 37ºC. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	**Pass**

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

Beth M. Paschal

Beth Paschal
Production Scientist
06 Jul 2018

Mary Conlon

Mary Conlon
Packaging Quality Control Inspector
05 Sep 2018