NEW ENGLAND BioLabs® Inc.

240 County Road
Ipswich, MA 01938-2723

Tel 978-927-5054
Fax 978-921-1350

www.neb.com
info@neb.com

# New England Biolabs
# Product Specification

| | |
|---|---|
| *Product Name:* | *Proteinase K, Molecular Biology Grade* |
| *Catalog #:* | *P8107S* |
| *Concentration:* | *800 units/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.* |
| *Shelf Life:* | *36 months* |
| *Storage Temp:* | *-20°C* |
| *Storage Conditions:* | *20 mM Tris-HCl, 1 mM $CaCl_2$, 50% Glycerol, (pH 7.4 @ 25°C)* |
| *Specification Version:* | *PS-P8107S v2.0* |
| *Effective Date:* | *22 Jun 2020* |

**Assay Name/Specification** (minimum release criteria)

**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.

**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 37°C releases <0.1% of the total radioactivity.

**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.

**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.

**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 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.

NEW ENGLAND BioLabs® Inc.

240 County Road
Ipswich, MA 01938-2723

Tel 978-927-5054
Fax 978-921-1350

www.neb.com
info@neb.com

# New England Biolabs
# Product Specification

| **Assay Name/Specification** (minimum release criteria) |
|---|
| **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. |



Date 22 Jun 2020

Derek Robinson
Director of Quality Control