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New England Biolabs
Product Specification

Product Name:	*RNase R*
Catalog #:	*M0100S/L*
Concentration:	*20,000 units/ml*
Unit Definition:	*One unit is defined as the amount of enzyme required to convert 75 pmoles of 20-nucleotide single-stranded RNA sequence downstream of a 38-nucleotide DNA hairpin into acid soluble ribonucleotides in a total reaction volume of 20 µl in 15 minutes at 25°C.*
Shelf Life:	*24 months*
Storage Temp:	*-20°C*
Storage Conditions:	*10 mM Tris-HCl, 300 mM NaCl, 0.1 mM EDTA, 1 mM DTT, 50% glycerol, surfactant, pH 7.4 at 25 °C*
Specification Version:	*PS-M0100S/L v1.0*
Effective Date:	*10 Jan 2025*

Assay Name/Specification (minimum release criteria)
Endonuclease Activity (Nicking) - A 50 µl reaction in NEBuffer 4 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 20 units of RNase R 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 NEBuffer 4 containing 1 µg of a mixture of single and double-stranded [^{3}H] *E. coli* DNA and a minimum of 20 units of RNase R incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.
Protein Purity (Microfluidic Electrophoresis) - RNase R is ≥95% pure as determined by microfluidic electrophoresis.
qPCR DNA Contamination (*E. coli* Genomic) - A minimum of 20 units of RNase R is screened for the presence of *E. coli* genomic DNA using SYBR® Green qPCR with primers specific for the *E. coli* 16S rRNA locus. Results are quantified using a standard curve generated from purified *E. coli* genomic DNA. The measured level of *E. coli* genomic DNA contamination is ≤ 1 *E. coli* genome.

Date 10 Jan 2025

Lauren Brown
Quality Approver

ISO 9001 Registered Quality Management
ISO 14001 Registered Environmental Management
ISO 13485 Registered Medical Devices