

New England Biolabs Product Specification

Product Name:	<i>Msz Exonuclease I</i>
Catalog #:	<i>M0527S</i>
Concentration:	<i>10,000 units/ml</i>
Unit Definition:	<i>One unit is defined as the amount of enzyme that will catalyze the release of 5 nmol of acid-soluble nucleotide in a total reaction volume of 100 µl in 15 minutes at 55°C in 1X rCutSmart Buffer.</i>
Shelf Life:	<i>24 months</i>
Storage Temp:	<i>-20°C</i>
Storage Conditions:	<i>10 mM Tris-HCl, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, (pH 7.4 @ 25°C)</i>
Specification Version:	<i>PS-M0527S v3.0</i>
Effective Date:	<i>19 Oct 2023</i>

Assay Name/Specification (minimum release criteria)

Endonuclease Activity (Circular Single Stranded DNA) - A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of M13mp18 Single-stranded DNA and a minimum of 100 units of Msz Exonuclease I incubated for 16 hours at 37°C results in <10% conversion to linear DNA as determined by agarose gel electrophoresis.

Endonuclease Activity (Nicking) - A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 100 units of Msz Exonuclease I incubated for 16 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.

Protein Purity Assay (SDS-PAGE) - Msz Exonuclease I is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.

qPCR DNA Contamination (*E. coli* Genomic) - A minimum of 10 units of Msz Exonuclease I 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.

RNase Activity (Extended Digestion) - A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µl of Msz Exonuclease I 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.

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



Date 19 Oct 2023

Lauren Brown
Quality Approver

