

be INSPIRED *drive* DISCOVERY *stay* GENUINE

240 County Road Ipswich, MA 01938-2723 Tel 978-927-5054 Fax 978-921-1350 www.neb.com info@neb.com

New England Biolabs Certificate of Analysis

Product Name:	Msel
Catalog Number:	R0525L
Concentration:	10,000 U/mI
Unit Definition:	One unit is defined as the amount of enzyme required to digest 1 μg of Lambda DNA in rCutSmart Buffer in 1 hour at 37°C in a total reaction volume of 50 μl.
Packaging Lot Number:	10170405
Expiration Date:	11/2024
Storage Temperature:	-20°C
Storage Conditions:	10 mM Tris-HCl, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 μg/ml rAlbumin (pH 7.4 @ 25°C)
Specification Version:	PS-R0525S/L v2.0

Msel Component List				
NEB Part Number	Component Description	Lot Number	Individual QC Result	
R0525LVIAL	Msel	10170402	Pass	
B7024AVIAL	Gel Loading Dye, Purple (6X)	10163561	Pass	
B6004SVIAL	rCutSmart™ Buffer	10165692	Pass	

Assay Name/Specification	Lot # 10170405
Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of Lambda DNA with Msel, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, >95% can be recut with Msel.	Pass
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in rCutSmart [™] Buffer containing 1 µg of a mixture of single and double-stranded [³ H] E. coli DNA and a minimum of 30 units of Msel incubated for 4 hours at 37°C releases <0.2% of the total radioactivity.	Pass
Protein Purity Assay (SDS-PAGE) Msel is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass
Functional Testing (15 minute Digest) A 50 µl reaction in rCutSmart [™] Buffer containing 1 µg of Lambda DNA and 1 µl of Msel incubated for 15 minutes at 37°C results in complete digestion as determined by	Pass





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agarose gel electrophoresis.	
qPCR DNA Contamination (E. coli Genomic) A minimum of 10 units of Msel 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 \leq 1 E. coli genome.	Pass
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in rCutSmart [™] Buffer containing 1 µg of Lambda DNA and a minimum of 100 units of Msel incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass

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

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.

YunJie Sun Production Scientist 10 Nov 2022

Josh Hersey

Packaging Quality Control Inspector 14 Nov 2022

