NEW ENGLAND BioLabs Inc.
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240 County Road
Ipswich, MA 01938-2723
Tel 978-927-5054
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www.neb.com
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New England Biolabs
Certificate of Analysis

Product Name:	*Topoisomerase I (E. coli)*
Catalog Number:	*M0301L*
Concentration:	*5,000 U/ml*
Unit Definition:	*One unit is defined as the amount of enzyme that catalyzes the relaxation of > 95% of 0.5 µg of negatively supercoiled pUC19 RF I DNA in a total reaction volume of 25 µl in 15 minutes at 37°C.*
Packaging Lot Number:	*10192459*
Expiration Date:	*05/2024*
Storage Temperature:	*-20°C*
Storage Conditions:	*10 mM Tris-HCl, 50 mM KCl, 35 mM (NH4)2SO4, 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, (pH 7.5 @ 25°C)*
Specification Version:	*PS-M0301S/L v1.0*

Topoisomerase I (E. coli) Component List			
NEB Part Number	**Component Description**	**Lot Number**	**Individual QC Result**
M0301LVIAL	Topoisomerase I (E. coli)	10187335	**Pass**
B6004SVIAL	rCutSmart™ Buffer	10202500	**Pass**

Assay Name/Specification	**Lot # 10192459**
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart® Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 50 units of Topoisomerase I (E. coli) incubated for 4 hours at 37ºC releases <0.5% of the total radioactivity.	**Pass**
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 Topoisomerase I (E. coli) 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**
qPCR DNA Contamination (E. coli Genomic) A minimum of 5 units of Topoisomerase I (E. coli) 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.	**Pass**

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

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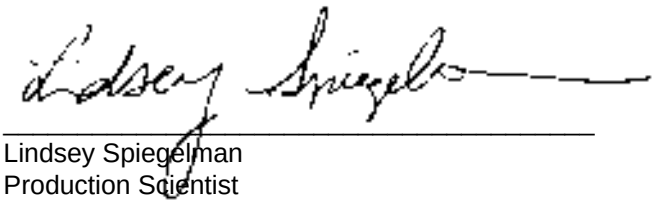

Lindsey Spiegelman
Production Scientist
11 May 2023

Josh Hersey
Packaging Quality Control Inspector
25 Oct 2023