

## New England Biolabs Certificate of Analysis

**Product Name:** *SmlI*  
**Catalog Number:** *R0597S*  
**Concentration:** *10,000 U/ml*  
**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 55°C in a total reaction volume of 50 µl.*  
**Packaging Lot Number:** *10251174*  
**Expiration Date:** *07/2026*  
**Storage Temperature:** *-20°C*  
**Storage Conditions:** *10 mM Tris-HCl, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 400 µg/ml rAlbumin (pH 7.4 @ 25C)*  
**Specification Version:** *PS-R0597S/L/V v2.0*

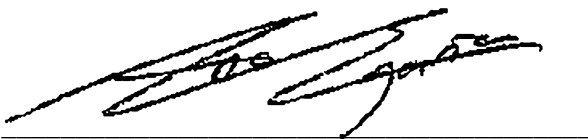
SmlI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0597SVIAL	SmlI	10251124	Pass
B6004SVIAL	rCutSmart™ Buffer	10245413	Pass

Assay Name/Specification	Lot # 10251174
<b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> H] E. coli DNA and a minimum of 50 units of SmlI incubated for 4 hours at 55°C releases <0.1% of the total radioactivity.	Pass
<b>Ligation and Recutting (Terminal Integrity)</b> After a 10-fold over-digestion of Lambda DNA with SmlI, ~75% 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 SmlI.	Pass
<b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 30 units of SmlI incubated for 16 hours at 55°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
<b>Protein Purity Assay (SDS-PAGE)</b> SmlI is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass

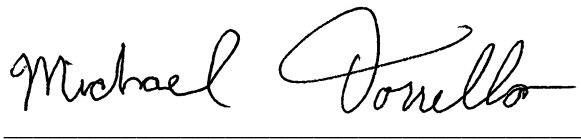
Assay Name/Specification	Lot # 10251174
<p><b>qPCR DNA Contamination (E. coli Genomic)</b>            A minimum of 10 units of SmlI is screened for the presence of E. coli genomic DNA using SYBR® Green qPCR with primers specific for the E. coli 16S rRNA locus. Results are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is <math>\leq 1</math> E. coli genome.</p>	<p><b>Pass</b></p>

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

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19 Jul 2024



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