

New England Biolabs Certificate of Analysis

Product Name: Psil-v2
Catalog Number: R0744S
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 1 hour at 37°C in a total reaction volume of 50 µl.
Lot Number: 10048301
Expiration Date: 06/2021
Storage Temperature: -20°C
Storage Conditions: 300 mM NaCl, 10 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, 500 µg/ml BSA, (pH 7.4 @ 25°C)
Specification Version: PS-R0744S/L v1.0

Psil-v2 Component List

NEB Part Number	Component Description	Lot Number	Individual QC Result
R0744SVIAL	Psil-v2	10048299	Pass
B7204SVIAL	CutSmart® Buffer	10043914	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10043349	Pass

Assay Name/Specification	Lot # 10048301
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 Psil-v2 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.	Pass
qPCR DNA Contamination (E. coli Genomic) A minimum of 10 units of Psil-v2 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
Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart® Buffer containing 1 µg of supercoiled pBR322 DNA and a minimum of 10 units of Psil-v2 incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
Exonuclease Activity (Radioactivity Release)	Pass

Assay Name/Specification	Lot # 10048301
<p>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 100 units of Psil-v2 incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.</p>	
<p>Protein Purity Assay (SDS-PAGE) Psil-v2 is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<p>Functional Testing (15 minute Digest) A 50 µl reaction in CutSmart® Buffer containing 1 µg of Lambda DNA and 1 µl of Psil-v2 incubated for 15 minutes at 37°C results in complete digestion as determined by agarose gel electrophoresis.</p>	Pass
<p>Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart® Buffer containing 1 µg of Lambda DNA and a minimum of 50 units of Psil-v2 incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	Pass
<p>Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of Lambda DNA with Psil-v2, >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 Psil-v2.</p>	Pass

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



Anthony Francis
Production Scientist
25 Jun 2019



Jay Minichiello
Packaging Quality Control Inspector
25 Jun 2019