

## New England Biolabs Certificate of Analysis

**Product Name:** *SfiI*  
**Catalog Number:** *R0123L*  
**Concentration:** *20,000 U/ml*  
**Unit Definition:** *One unit is defined as the amount of enzyme required to digest 1 µg of pXba in 1 hour at 50°C in a total reaction volume of 50 µl.*  
**Packaging Lot Number:** *10072936*  
**Expiration Date:** *04/2022*  
**Storage Temperature:** *-20°C*  
**Storage Conditions:** *250 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 0.15% Triton X-100, 200 µg/ml BSA*  
**Specification Version:** *PS-R0123S/L v1.0*

SfiI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0123LVIAL	SfiI	10072935	Pass
B7204SVIAL	CutSmart® Buffer	10071078	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10065747	Pass

Assay Name/Specification	Lot # 10072936
<b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> H] E. coli DNA and a minimum of 100 units of SfiI incubated for 4 hours at 50°C releases <0.1% of the total radioactivity.	Pass
<b>Ligation and Recutting (Terminal Integrity)</b> After a 10-fold over-digestion of pXba DNA with SfiI, >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 SfiI.	Pass
<b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in CutSmart™ Buffer containing 1 µg of pXba DNA and a minimum of 100 units of SfiI incubated for 16 hours at 50°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> SfiI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	Pass

Assay Name/Specification	Lot # 10072936
<b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 100 units of Sfil incubated for 4 hours at 50°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	<b>Pass</b>

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



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Penghua Zhang  
Production Scientist  
29 Apr 2020



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Jay Minichiello  
Packaging Quality Control Inspector  
29 Apr 2020