NEW ENGLAND BioLabs Inc.
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240 County Road
Ipswich, MA 01938-2723
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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:	*10195704*
Expiration Date:	*06/2025*
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	10195702	**Pass**
B7024AVIAL	Gel Loading Dye, Purple (6X)	10189226	**Pass**
B6004SVIAL	rCutSmart™ Buffer	10193042	**Pass**

Assay Name/Specification	Lot # 10195704
Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 100 units of SfiI incubated for 4 hours at 50ºC results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	**Pass**
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [^{3}H] E. coli DNA and a minimum of 100 units of SfiI incubated for 4 hours at 50ºC releases <0.1% of the total radioactivity.	**Pass**
Ligation and Recutting (Terminal Integrity) 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 16ºC. Of these ligated fragments, >95% can be recut with SfiI.	**Pass**
Non-Specific DNase Activity (16 Hour) 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 50ºC results in a DNA pattern free of	**Pass**

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Assay Name/Specification	Lot # 10195704
detectable nuclease degradation as determined by agarose gel electrophoresis.	
Protein Purity Assay (SDS-PAGE) SfiI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	**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
16 Jun 2023

Josh Hersey
Packaging Quality Control Inspector
17 Jul 2023