

New England Biolabs Certificate of Analysis

Product Name: Sfil
Catalog Number: R0123S
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: 10077059
Expiration Date: 02/2022
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

Sfil Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0123SVIAL	Sfil	10065030	Pass
B7204SVIAL	CutSmart® Buffer	10075570	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10075964	Pass

Assay Name/Specification	Lot # 10077059
Endonuclease Activity (Nicking) 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.	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 Sfil incubated for 4 hours at 50°C releases <0.1% of the total radioactivity.	Pass
Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of pXba DNA with Sfil, >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 Sfil.	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 Sfil incubated for 16 hours at 50°C results in a DNA pattern free of	Pass

Assay Name/Specification	Lot # 10077059
<p>detectable nuclease degradation as determined by agarose gel electrophoresis.</p> <p>Protein Purity Assay (SDS-PAGE) Sfil is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</p>	<p>Pass</p>

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



Penghua Zhang
Production Scientist
17 Jul 2020



Michael Tonello
Packaging Quality Control Inspector
17 Jul 2020