

New England Biolabs Certificate of Analysis

Product Name: *Sfil*
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: *10096366*
Expiration Date: *01/2023*
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
R0123LVIAL	Sfil	10096367	Pass
B7204SVIAL	CutSmart® Buffer	10093125	Pass
B7024AVIAL	Gel Loading Dye, Purple (6X)	10089405	Pass

Assay Name/Specification	Lot # 10096366
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 # 10096366
<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.

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Penghua Zhang
Production Scientist
10 Feb 2021



Josh Hersey
Packaging Quality Control Inspector
10 Feb 2021