

New England Biolabs Certificate of Analysis

Product Name: *SacI-HF[®]*
Catalog Number: *R3156S*
Concentration: *20,000 U/ml*
Unit Definition: *One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA (HindIII digest) in 1 hour at 37°C in a total reaction volume of 50 µl.*
Packaging Lot Number: *10104802*
Expiration Date: *01/2023*
Storage Temperature: *-20°C*
Storage Conditions: *100 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml BSA*
Specification Version: *PS-R3156S/L v2.0*

SacI-HF[®] Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R3156SVIAL	SacI-HF [®]	10096525	Pass
B7024AVIAL	Gel Loading Dye, Purple (6X)	10092682	Pass
B6004SVIAL	rCutSmart [™] Buffer	10105820	Pass

Assay Name/Specification	Lot # 10104802
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart [™] Buffer containing 1 µg of Lambda-HindIII DNA and a minimum of 100 Units of SacI-HF [™] incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
Ligation and Recutting (Terminal Integrity) After a 20-fold over-digestion of pXba DNA with SacI-HF [™] , >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 SacI-HF [™] .	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 SacI-HF [™] incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
Endonuclease Activity (Nicking)	Pass

Assay Name/Specification	Lot # 10104802
<p>A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 60 Units of SmaI-HF™ incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	
<p>Blue-White Screening (Terminal Integrity) A sample of LITMUS28i vector linearized with a 10-fold excess of SmaI-HF™, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in <1% white colonies.</p>	Pass
<p>Protein Purity Assay (SDS-PAGE) SmaI-HF™ is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</p>	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.



Penghua Zhang
Production Scientist
06 May 2021



Michael Tonello
Packaging Quality Control Inspector
06 May 2021