

New England Biolabs Certificate of Analysis

Product Name: *SacI-HF[®]*
Catalog Number: *R3156M*
Concentration: *100,000 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: *10140528*
Expiration Date: *02/2024*
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-R3156M v2.0*

SacI-HF [®] Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R3156MVIAL	SacI-HF [®]	10140526	Pass
B7024AVIAL	Gel Loading Dye, Purple (6X)	10132772	Pass
B6004SVIAL	rCutSmart [™] Buffer	10138402	Pass

Assay Name/Specification	Lot # 10140528
Protein Purity Assay (SDS-PAGE) SacI-HF [™] is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	Pass
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
Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart [™] Buffer containing 1 µg of supercoiled PhiX174 DNA and	Pass

Assay Name/Specification	Lot # 10140528
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.	
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.	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 SmaI-HF™ incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass

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

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Production Scientist
14 Mar 2022



Josh Hersey
Packaging Quality Control Inspector
14 Mar 2022