

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.
Lot Number: 10011827
Expiration Date: 07/2020
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 v1.0

SacI-HF[®] Component List

NEB Part Number	Component Description	Lot Number	Individual QC Result
R3156M VIAL	SacI-HF [®]	10011828	Pass
B7204S VIAL	CutSmart [®] Buffer	10013537	Pass
B7024S VIAL	Gel Loading Dye, Purple (6X)	0261805	Pass

Assay Name/Specification	Lot # 10011827
Blue-White Screening (Terminal Integrity) A sample of LITMUS28i vector linearized with a 10-fold excess of SacI-HF [™] , religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in <1% white colonies.	Pass
Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart [™] Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 60 Units of SacI-HF [™] incubated for 4 hours at 37°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 SacI-HF [™] incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
Ligation and Recutting (Terminal Integrity) After a 20-fold over-digestion of Lambda-HindIII DNA with SacI-HF [™] , >95% of the DNA	Pass

Assay Name/Specification	Lot # 10011827
<p>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™.</p> <p>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.</p> <p>Protein Purity Assay (SDS-PAGE) SacI-HF™ is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</p>	<p style="text-align: center;">Pass</p> <p style="text-align: center;">Pass</p>

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



Tony Spear-Alfonso
Production Scientist
10 Jul 2018



Michael Tonello
Packaging Quality Control Inspector
31 Jul 2018