

New England Biolabs Certificate of Analysis

Product Name: SbfI-HF[®]
Catalog Number: R3642L
Concentration: 20,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA in rCutSmart Buffer in 1 hour at 37°C in a total reaction volume of 50 µl.
Packaging Lot Number: 10193706
Expiration Date: 05/2025
Storage Temperature: -20°C
Storage Conditions: 10 mM Tris-HCl, 200 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml rAlbumin (pH 7.4 @ 25°C)
Specification Version: PS-R3642S/L v2.0

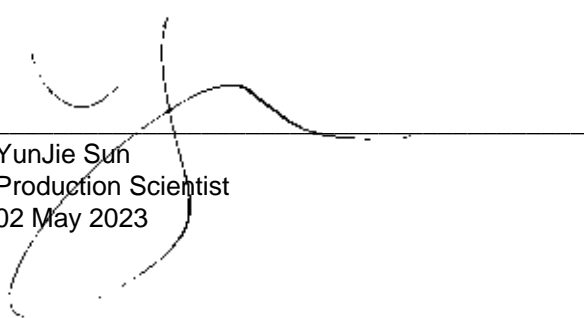
SbfI-HF [®] Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R3642LVIAL	SbfI-HF [®]	10187682	Pass
B7024AVIAL	Gel Loading Dye, Purple (6X)	10186770	Pass
B6004SVIAL	rCutSmart [™] Buffer	10184702	Pass

Assay Name/Specification	Lot # 10193706
Endonuclease Activity (Nicking) A 50 µl reaction in rCutSmart [™] Buffer containing 1 µg of supercoiled pBR322 DNA and a minimum of 20 units of SbfI-HF [®] incubated for 4 hours at 37°C results in <20% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in rCutSmart [™] Buffer containing 1 µg of a mixture of single and double-stranded [³ H] E. coli DNA and a minimum of 100 units of SbfI-HF [®] incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
Functional Testing (15 minute Digest) A 50 µl reaction in rCutSmart [™] Buffer containing 1 µg of Lambda DNA and 1 µl of SbfI-HF [®] incubated for 15 minutes at 37°C results in complete digestion as determined by agarose gel electrophoresis.	Pass
Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of Lambda DNA with SbfI-HF [®] , >95% of the DNA	Pass

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fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, >95% can be recut with SbfI-HF®.	
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 20 units of SbfI-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
Protein Purity Assay (SDS-PAGE) SbfI-HF® is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	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.



YunJie Sun
Production Scientist
02 May 2023



Josh Hersey
Packaging Quality Control Inspector
22 Jun 2023