

## New England Biolabs Certificate of Analysis

**Product Name:** SbfI-HF<sup>®</sup>  
**Catalog Number:** R3642S  
**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 1 hour at 37°C in a total reaction volume of 50 µl.  
**Packaging Lot Number:** 10157911  
**Expiration Date:** 03/2024  
**Storage Temperature:** -20°C  
**Storage Conditions:** 200 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-R3642S/L v1.0

SbfI-HF <sup>®</sup> Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R3642SVIAL	SbfI-HF <sup>®</sup>	10140486	Pass
B7024AVIAL	Gel Loading Dye, Purple (6X)	10156431	Pass
B6004SVIAL	rCutSmart <sup>™</sup> Buffer	10156428	Pass

Assay Name/Specification	Lot # 10157911
<p><b>Non-Specific DNase Activity (16 Hour)</b>            A 50 µl reaction in CutSmart<sup>™</sup> Buffer containing 1 µg of Lambda DNA and a minimum of 20 Units of SbfI-HF<sup>™</sup> incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	<b>Pass</b>
<p><b>Ligation and Recutting (Terminal Integrity)</b>            After a 10-fold over-digestion of Lambda DNA with SbfI-HF<sup>™</sup>, &gt;95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, &gt;95% can be recut with SbfI-HF<sup>™</sup>.</p>	<b>Pass</b>
<p><b>Exonuclease Activity (Radioactivity Release)</b>            A 50 µl reaction in CutSmart<sup>™</sup> Buffer containing 1 µg of a mixture of single and double-stranded [<sup>3</sup>H] E. coli DNA and a minimum of 100 units of SbfI-HF<sup>™</sup> incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</p>	<b>Pass</b>
<p><b>Endonuclease Activity (Nicking)</b>            A 50 µl reaction in CutSmart<sup>™</sup> Buffer containing 1 µg of supercoiled pBR322 DNA and a minimum of 20 Units of SbfI-HF<sup>™</sup> incubated for 4 hours at 37°C results in &lt;20%</p>	<b>Pass</b>

Assay Name/Specification	Lot # 10157911
<p>conversion to the nicked form as determined by agarose gel electrophoresis.</p> <p><b>Protein Purity Assay (SDS-PAGE)</b> Sbfl-HF™ is &gt;95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</p>	<p><b>Pass</b></p>

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](http://www.neb.com/trademarks) for additional information.



\_\_\_\_\_  
Penghua Zhang  
Production Scientist  
12 Aug 2022



\_\_\_\_\_  
Erin Varney  
Packaging Quality Control Inspector  
12 Aug 2022