NEW ENGLAND BioLabs Inc.
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240 County Road
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New England Biolabs
Certificate of Analysis

Product Name:	*BsrGI-HF®*
Catalog Number:	*R3575S*
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:	*10141144*
Expiration Date:	*11/2023*
Storage Temperature:	*-20°C*
Storage Conditions:	*50 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-R3575S/L v1.0*

BsrGI-HF® Component List

NEB Part Number	Component Description	Lot Number	Individual QC Result
R3575SVIAL	BsrGI-HF®	10129850	**Pass**
B7024AVIAL	Gel Loading Dye, Purple (6X)	10132772	**Pass**
B6004SVIAL	rCutSmart™ Buffer	10136928	**Pass**

Assay Name/Specification	Lot # 10141144
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 100 units of BsrGI-HF incubated for 16 hours at 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	**Pass**
Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of Lambda DNA with BsrGI-HF, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16ºC. Of these ligated fragments, >95% can be recut with BsrGI-HF.	**Pass**
Functional Test (15 minute Digest) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and 1 µl of BsrGI-HF incubated for 15 minutes at 37ºC results in complete digestion 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 BsrGI-HF incubated	**Pass**

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Assay Name/Specification	Lot # 10141144
for 4 hours at 37ºC releases <0.1% of the total radioactivity.	
Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled ϕX174 DNA and a minimum of 60 units of BsrGI-HF incubated for 4 hours at 37ºC results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	**Pass**
Protein Purity Assay (SDS-PAGE) BsrGI-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.

Penghua Zhang
Production Scientist
08 Mar 2022

Josh Hersey
Packaging Quality Control Inspector
08 Mar 2022