NEW ENGLAND BioLabs Inc.

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240 County Road
Ipswich, MA 01938-2723

Tel 978-927-5054
Fax 978-921-1350

www.neb.com
info@neb.com

New England Biolabs
Certificate of Analysis

Product Name:	*NheI-HF®*
Catalog Number:	*R3131S*
Concentration:	*20,000 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:	*10030944*
Expiration Date:	*10/2020*
Storage Temperature:	*-20°C*
Storage Conditions:	*250 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 0.15% Triton X-100, 200 µg/ml BSA*
Specification Version:	*PS-R3131S/L v1.0*

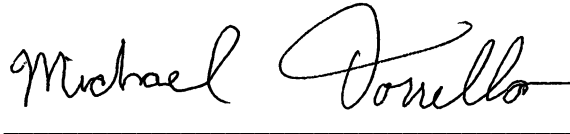| NheI-HF® Component List			
NEB Part Number	**Component Description**	**Lot Number**	**Individual QC Result**
R3131SVIAL	NheI-HF®	10027112	**Pass**
B7204SVIAL	CutSmart® Buffer	10021126	**Pass**
B7024SVIAL	Gel Loading Dye, Purple (6X)	10021131	**Pass**

Assay Name/Specification	Lot # 10030944
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda HindIII DNA and a minimum of 200 Units of NheI-HF™ incubated for 16 hours at 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
Blue-White Screening (Terminal Integrity) A sample of LITMUS28i vector linearized with a 10-fold excess of NheI-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 100 Units of NheI-HF™ incubated for 4 hours at 37ºC results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
Exonuclease Activity (Radioactivity Release)	Pass

ISO 9001 Registered Quality Management
ISO 13485 Registered Medical Devices
ISO 14001 Registered Environmental Management

R3131S / Lot: 10030944
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Assay Name/Specification	Lot # 10030944
A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 300 units of NheI-HF™ incubated for 4 hours at 37⁰C releases <0.1% of the total radioactivity.	
Ligation and Recutting (Terminal Integrity) After a 100-fold over-digestion of Lambda HindIII DNA with NheI-HF™, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16⁰C. Of these ligated fragments, >95% can be recut with NheI-HF™.	Pass

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

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Jianying Luo
Production Scientist
02 Nov 2018

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Michael Tonello
Packaging Quality Control Inspector
11 Dec 2018

nqa.
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