NEW ENGLAND BioLabs Inc.
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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:* | *10052618* |
| *Expiration Date:* | *08/2021* |
| *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® | 10052617 | **Pass** |
| B7204SVIAL | CutSmart® Buffer | 10046089 | **Pass** |
| B7024SVIAL | Gel Loading Dye, Purple (6X) | 10043911 | **Pass** |

| **Assay Name/Specification** | **Lot # 10052618** |
|---|---|
| **Blue-White Screening (Terminal Integrity)**<br>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)**<br>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)**<br>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 300 units of NheI-HF™ incubated for 4 hours at 37ºC releases <0.1% of the total radioactivity. | **Pass** |
| **Ligation and Recutting (Terminal Integrity)**<br>After a 100-fold over-digestion of Lambda HindIII DNA with NheI-HF™, >95% of the DNA | **Pass** |

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| Assay Name/Specification | Lot # 10052618 |
|---|---|
| fragments can be ligated with T4 DNA ligase in 16 hours at 16ºC. Of these ligated fragments, >95% can be recut with NheI-HF™. | |
| **Non-Specific DNase Activity (16 Hour)**<br>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** |

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

David Guo
Production Scientist
13 Aug 2019

Michael Tonello
Packaging Quality Control Inspector
18 Sep 2019