

New England Biolabs Certificate of Analysis

Product Name: NheI-HFTM
Catalog #: R3131S/L
Concentration: 20,000 units/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 #: 0021311
Assay Date: 11/2013
Expiration Date: 11/2015
Storage Temp: -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
Effective Date: 17 Apr 2013

Assay Name/Specification (minimum release criteria)	Lot #0021311
Blue-White Screening (Terminal Integrity) - A sample of LITMUS28i vector linearized with a 10-fold excess of NheI-HF TM , religated and transformed into an <i>E. coli</i> strain expressing the LacZ beta fragment gene results in <1% white colonies.	Pass
Endonuclease Activity (Nicking) - A 50 µl reaction in CutSmart TM Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 100 Units of NheI-HF TM incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
Exonuclease Activity (Radioactivity Release) - A 50 µl reaction in CutSmart TM Buffer containing 1 µg of a mixture of single and double-stranded [³ H] <i>E. coli</i> DNA and a minimum of 300 units of NheI-HF TM incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
Ligation and Recutting (Terminal Integrity) - After a 100-fold over-digestion of Lambda HindIII DNA with NheI-HF TM , >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, >95% can be recut with NheI-HF TM .	Pass
Non-Specific DNase Activity (16 Hour) - A 50 µl reaction in CutSmart TM Buffer containing 1 µg of Lambda HindIII DNA and a minimum of 200 Units of NheI-HF TM incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass

* The BSA in this product has been granted an EDQM "Certificate of Suitability" from the European Directorate for the Quality of Medicines (# R1-CEP-2003-204-Rev00) and has been granted a USDA Certificate for Export of Bovine Blood Plasma/Serum for Manufacture into Pharmaceutical Products.

M. W. Southworth

D. Hough

Authorized by
Maurice Southworth
17 Apr 2013

Inspected by
David Hough
19 Dec 2013

