

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.
Packaging Lot Number: 10106179
Expiration Date: 01/2023
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 [®]	10096347	Pass
B7024AVIAL	Gel Loading Dye, Purple (6X)	10093116	Pass
B6004SVIAL	rCutSmart [™] Buffer	10105820	Pass

Assay Name/Specification	Lot # 10106179
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 300 units of NheI-HF [™] 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 [™] , >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 [™] .	Pass
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 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
Blue-White Screening (Terminal Integrity)	Pass

Assay Name/Specification	Lot # 10106179
<p>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.</p> <p>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 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	<p>Pass</p>

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

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Penghua Zhang
Production Scientist
10 May 2021



Michael Tonello
Packaging Quality Control Inspector
10 May 2021