

## New England Biolabs Certificate of Analysis

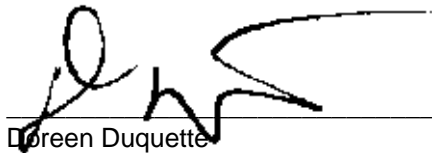
**Product Name:** HindIII-HF®  
**Catalog Number:** R3104L  
**Concentration:** 20,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA in 1 hour at 37°C in a total reaction volume of 50 µl.  
**Lot Number:** 10055811  
**Expiration Date:** 09/2021  
**Storage Temperature:** -20°C  
**Storage Conditions:** 300 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 500 µg/ml BSA  
**Specification Version:** PS-R3104S/L v1.0

HindIII-HF® Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R3104LVIAL	HindIII-HF®	10055810	Pass
B7204SVIAL	CutSmart® Buffer	10046089	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10050274	Pass

Assay Name/Specification	Lot # 10055811
<b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 60 Units of HindIII-HF™ incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
<b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> H] E. coli DNA and a minimum of 200 units of HindIII-HF™ incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
<b>Ligation and Recutting (Terminal Integrity)</b> After a 100-fold over-digestion of Lambda DNA with HindIII-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 HindIII-HF™.	Pass
<b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 200 Units of HindIII-HF™ incubated for 16 hours at 37°C results in a DNA pattern	Pass

Assay Name/Specification	Lot # 10055811
<p>free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p> <p><b>Protein Purity Assay (SDS-PAGE)</b> HindIII-HF™ is &gt;95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</p>	<p><b>Pass</b></p>

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




---

Doreen Duquette  
Production Scientist  
26 Aug 2019




---

Jay Minichiello  
Packaging Quality Control Inspector  
07 Oct 2019