New England Biolabs
Product Specification

**Product Name:** HindIII

**Catalog #:** R0104T/M

**Concentration:** 100,000 units/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.

**Shelf Life:** 24 months

**Storage Temp:** -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-R0104T/M v1.0

**Effective Date:** 08 May 2013

<table>
<thead>
<tr>
<th>Assay Name/Specification (minimum release criteria)</th>
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<tbody>
<tr>
<td><strong>Blue-White Screening (Terminal Integrity)</strong> - A sample of Litmus28i vector linearized with a 10-fold excess of HindIII, religated and transformed into an <em>E. coli</em> strain expressing the LacZ beta fragment gene results in &lt;1% white colonies.</td>
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<td><strong>Endonuclease Activity (Nicking)</strong> - A 50 µl reaction in NEBuffer 2.1 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 60 Units of HindIII incubated for 4 hours at 37°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</td>
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<td><strong>Exonuclease Activity (Radioactivity Release)</strong> - A 50 µl reaction in NEBuffer 2.1 containing 1 µg of a mixture of single and double-stranded [<em>³H]</em> <em>E. coli</em> DNA and a minimum of 200 units of HindIII incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</td>
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<td><strong>Ligation and Recutting (Terminal Integrity)</strong> - After a 200-fold over-digestion of Lambda DNA with HindIII, &gt;95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, &gt;95% can be recut with HindIII.</td>
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<td><strong>Non-Specific DNase Activity (16 Hour)</strong> - A 50 µl reaction in NEBuffer 2.1 containing 1 µg of Lambda DNA and a minimum of 60 Units of HindIII incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</td>
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<td><strong>Protein Purity Assay (SDS-PAGE)</strong> - HindIII is &gt;95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</td>
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* 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.

Derek Robinson  
Director of Quality Control  

Date 08 May 2013