New England Biolabs
Certificate of Analysis

Product Name: EcoRI
Catalog #: R0101T/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.
Lot #: 0341405
Assay Date: 05/2014
Expiration Date: 5/2016
Storage Temp: -20 ºC
Storage Conditions: 300 mM NaCl, 10 mM KPO4 (pH 7.5), 10 mM DTT, 0.1 mM EDTA, 50% Glycerol, 0.15% Triton X-100, 200 µg/ml BSA
Specification Version: PS-R0101T/M v1.0
Effective Date: 09 May 2014

<table>
<thead>
<tr>
<th>Assay Name/Specification (minimum release criteria)</th>
<th>Lot #0341405</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue-White Screening (Terminal Integrity) - A sample of pUC19 vector linearized with a 10-fold excess of EcoRI, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in &lt;1% white colonies.</td>
<td>Pass</td>
</tr>
<tr>
<td>Exonuclease Activity (Radioactivity Release) - A 50 µl reaction in EcoRI Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 200 units of EcoRI incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</td>
<td>Pass</td>
</tr>
<tr>
<td>Ligation and Recutting (Terminal Integrity) - After a 20-fold over-digestion of Lambda DNA with EcoRI, &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 EcoRI.</td>
<td>Pass</td>
</tr>
<tr>
<td>Non-Specific DNase Activity (16 Hour) - A 50 µl reaction in EcoRI Buffer containing 1 µg of Lambda DNA and a minimum of 100 Units of EcoRI incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</td>
<td>Pass</td>
</tr>
<tr>
<td>Protein Purity Assay (SDS-PAGE) - EcoRI is &gt;95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</td>
<td>Pass</td>
</tr>
</tbody>
</table>

* 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.

Authorized by Derek Robinson 09 May 2014

Inspected by Casey Madinger 09 May 2014

R0101T/M Lot: 0341405