# New England Biolabs
## Product Specification

**Product Name:** EcoRI  
**Catalog #:** R0101S/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 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 KPO4 (pH 7.5), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 0.15% Triton X-100, 200 µg/ml BSA  
**Specification Version:** PS-R0101S/L v2.0  
**Effective Date:** 22 Sep 2014

### Assay Name/Specification (minimum release criteria)

<table>
<thead>
<tr>
<th>Assay Name/Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Blue-White Screening (Terminal Integrity)</strong></td>
<td>A sample of pUC19 vector linearized with a 10-fold excess of EcoRI, 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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<tr>
<td><strong>Exonuclease Activity (Radioactivity Release)</strong></td>
<td>A 50 µl reaction in EcoRI Buffer containing 1 µg of a mixture of single and double-stranded[^Hi] <em>E. coli</em> 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>
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<tr>
<td><strong>Ligation and Recutting (Terminal Integrity)</strong></td>
<td>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>
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<tr>
<td><strong>Non-Specific DNase Activity (16 Hour)</strong></td>
<td>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>
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<tr>
<td><strong>Protein Purity Assay (SDS-PAGE)</strong></td>
<td>EcoRI is &gt;95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</td>
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[^Hi]:[^Hi]

* 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.

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**Date** 22 Sep 2014

Derek Robinson  
Director of Quality Control