

## New England Biolabs Product Specification

|                               |   |
|-------------------------------|---|
| <i>Product Name:</i>          | <i>EcoRI</i>  |
| <i>Catalog #:</i>             | <i>R0101S/L</i>   |
| <i>Concentration:</i>         | <i>20,000 units/ml</i>  |
| <i>Unit Definition:</i>       | <i>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.</i> |
| <i>Shelf Life:</i>            | <i>24 months</i>  |
| <i>Storage Temp:</i>          | <i>-20 °C</i>   |
| <i>Storage Conditions:</i>    | <i>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</i>                                |
| <i>Specification Version:</i> | <i>PS-R0101S/L v1.0</i>   |
| <i>Effective Date:</i>        | <i>01 May 2013</i>  |

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

**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 <1% white colonies.

**Exonuclease Activity (Radioactivity Release)** - A 50 µl reaction in EcoRI 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 EcoRI incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.

**Ligation and Recutting (Terminal Integrity)** - After a 20-fold over-digestion of Lambda DNA with EcoRI, >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 EcoRI.

**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.

**Protein Purity Assay (SDS-PAGE)** - EcoRI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.

\* 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 01 May 2013

