

## New England Biolabs Product Specification

<i>Product Name:</i>	<i>E. coli DNA Ligase Reaction Buffer</i>
<i>Catalog #:</i>	<i>B0205B</i>
<i>Concentration:</i>	<i>10X Concentrate</i>
<i>Shelf Life:</i>	<i>36 months</i>
<i>Storage Temp:</i>	<i>-20°C</i>
<i>Composition (1X):</i>	<i>30 mM Tris-HCl, 4 mM MgCl<sub>2</sub>, 26 μM NAD<sup>+</sup>, 1 mM DTT, 50 μg/ml BSA, (pH 8.0 @ 25°C)</i>
<i>Specification Version:</i>	<i>PS-B0205B v1.0</i>
<i>Effective Date:</i>	<i>30 Mar 2021</i>

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

**Endonuclease Activity (Nicking, Buffer)** - A 50 μl reaction in 1X *E. coli* DNA Ligase Reaction Buffer containing 1 μg of supercoiled PhiX174 DNA incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.

**Functional Testing (DNA Ligase Buffer)** - A 20 μl reaction in 1X *E. coli* DNA Ligase Reaction Buffer containing 6 μg of Lambda-HindIII DNA and 1 unit of *E. coli* DNA Ligase incubated for 30 minutes at 16°C results in approximately 50% ligation of the DNA fragments as determined by agarose gel electrophoresis.

**Non-Specific DNase Activity (16 hour, Buffer)** - A 50 μl reaction in 1X *E. coli* DNA Ligase Reaction Buffer containing 1 μg of PhiX174-HaeIII DNA incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

**pH (buffers/solutions)** - The pH of 10X *E. coli* DNA Ligase Reaction Buffer is between pH 7.9 and 8.1 at 25°C.

**RNase Activity (Buffer)** - A 10 μl reaction in 1X *E. coli* DNA Ligase Reaction Buffer containing 40 ng of a 300 base single-stranded RNA is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.

One or more products referenced in this document may be covered by a 3rd-party trademark.  
Please visit [www.neb.com/trademarks](http://www.neb.com/trademarks) for additional information.



Date 30 Mar 2021

Derek Robinson  
Director, Quality Control

