

## New England Biolabs Certificate of Analysis

**Product Name:** T4 DNA Ligase Reaction Buffer  
**Catalog #:** B0202S  
**Concentration:** 10X  
**Lot #:** 0011801  
**Assay Date:** 01/2018  
**Expiration Date:** 01/2021  
**Storage Temp:** -20°C  
**Composition (1X):** 50 mM Tris-HCl, 10 mM MgCl<sub>2</sub>, 10 mM DTT, 1 mM ATP, (pH 7.5 @ 25°C)  
**Specification Version:** PS-B0202S v2.0  
**Effective Date:** 01 Mar 2018

Assay Name/Specification (minimum release criteria)	Lot #0011801
<b>Endonuclease Activity (Nicking, Buffer)</b> - A 50 µl reaction in 1X T4 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.	<b>Pass</b>
<b>Functional Testing (DNA Ligase Buffer)</b> - A 20 µl reaction in 1X T4 DNA Ligase Reaction Buffer containing 6 µg of Lambda-HindIII DNA and 1 unit of T4 DNA Ligase incubated for 30 minutes at 16°C results in approximately 50% ligation of the DNA fragments as determined by agarose gel electrophoresis.	<b>Pass</b>
<b>Non-Specific DNase Activity (16 hour, Buffer)</b> - A 50 µl reaction in 1X T4 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.	<b>Pass</b>
<b>pH (buffers/solutions)</b> - The pH of 10X T4 DNA Ligase Reaction Buffer is between pH 7.4 and 7.6 at 25°C.	<b>Pass</b>
<b>RNase Activity (Buffer)</b> - A 10 µl reaction in 1X T4 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 fluorescent detection.	<b>Pass</b>



Authorized by  
Derek Robinson  
01 Mar 2018



Inspected by  
Mary Lorenzen  
09 Jan 2018

