

## New England Biolabs Certificate of Analysis

**Product Name:** T4 DNA Ligase Reaction Buffer  
**Catalog Number:** B0202S  
**Concentration:** 10 X Concentrate  
**Packaging Lot Number:** 10167458  
**Expiration Date:** 06/2025  
**Storage Temperature:** -20°C  
**Specification Version:** PS-B0202S v2.0  
**Composition (1X):** 50 mM Tris-HCl, 10 mM MgCl<sub>2</sub>, 10 mM DTT, 1 mM ATP, (pH 7.5 @ 25°C)

T4 DNA Ligase Reaction Buffer Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
B0202SVIAL	T4 DNA Ligase Reaction Buffer	10153862	Pass

Assay Name/Specification	Lot # 10167458
<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>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>
<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>

This product has been tested and shown to be in compliance with all specifications.

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Nancy Considine  
Production Scientist  
18 Jul 2022



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Erin Varney  
Packaging Quality Control Inspector  
19 Oct 2022