

## New England Biolabs Certificate of Analysis

**Product Name:** Taq DNA Ligase  
**Catalog Number:** M0208L  
**Concentration:** 40,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to give 50% ligation of the 12-base pair cohesive ends of 1 µg of BstEII-digested Lambda DNA in a total reaction volume of 50 µl in 15 minutes at 45°C.  
**Lot Number:** 10051891  
**Expiration Date:** 06/2021  
**Storage Temperature:** -20°C  
**Storage Conditions:** 10 mM Tris-HCl , 50 mM KCl , 1 mM DTT , 0.1 mM EDTA , 200 µg/ml BSA , 50 % Glycerol, (pH 7.4 @ 25°C)  
**Specification Version:** PS-M0208S/L v2.0

Taq DNA Ligase Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0208LVIAL	Taq DNA Ligase	10045769	Pass
B0208SVIAL	Taq DNA Ligase Reaction Buffer	10042800	Pass

Assay Name/Specification	Lot # 10051891
<b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in NEBuffer 4 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 400 units of Taq DNA Ligase incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
<b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in Taq DNA Ligase Reaction Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> H] E. coli DNA and a minimum of 400 units of Taq DNA Ligase incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
<b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in NEBuffer 4 containing 1 µg of Lambda-HindIII DNA and a minimum of 80 units of Taq DNA Ligase incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
<b>Protein Purity Assay (SDS-PAGE)</b>	Pass

Assay Name/Specification	Lot # 10051891
<p>Taq DNA Ligase is <math>\geq 95\%</math> pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	
<p><b>qPCR DNA Contamination (E. coli Genomic)</b> A minimum of 40 units of Taq DNA Ligase is screened for the presence of E. coli genomic DNA using SYBR<sup>®</sup> Green qPCR with primers specific for the E. coli 16S rRNA locus. Results are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is <math>\leq 1</math> E. coli genome.</p>	<b>Pass</b>
<p><b>RNase Activity (Extended Digestion)</b> A 10 <math>\mu</math>l reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 <math>\mu</math>l of Taq DNA Ligase is incubated at 37°C. After incubation for 16 hours, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p>	<b>Pass</b>

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



Mary Lorenzen  
Production Scientist  
17 Jun 2019



Jay Minichiello  
Packaging Quality Control Inspector  
29 Aug 2019