

## New England Biolabs Certificate of Analysis


**Product Name:** 9°N™ DNA Ligase  
**Catalog Number:** M0238S  
**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 15 minutes at 45°C.  
**Lot Number:** 10056229  
**Expiration Date:** 09/2021  
**Storage Temperature:** -20°C  
**Storage Conditions:** 10 mM Tris-HCl, 50 mM KCl, 10 mM (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, 1 mM DTT, 0.1 mM EDTA, 200 µg/ml BSA, 50 % Glycerol, (pH 7.5 @ 25°C)  
**Specification Version:** PS-M0238S/L v1.0

9°N™ DNA Ligase Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0238SVIAL	9°N™ DNA Ligase	10053726	Pass
B0238SVIAL	10X 9°N™ DNA Ligase Buffer	10039939	Pass

Assay Name/Specification	Lot # 10056229
<b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in 9°N™ 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 9°N™ 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 9°N™ 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>RNase Activity (Extended Digestion)</b> A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µl of 9°N™ DNA Ligase 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.	Pass
<b>Endonuclease Activity (Nicking)</b>	Pass

Assay Name/Specification	Lot # 10056229
A 50 µl reaction in NEBuffer 4 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 400 units of 9°N™ DNA Ligase incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	

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



Mary Lorenzen  
Production Scientist  
22 Apr 2019



Michael Tonello  
Packaging Quality Control Inspector  
20 Sep 2019