240 County Road
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Tel 978-927-5054
Fax 978-921-1350
www.neb.com
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# 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.* |
| *Packaging Lot Number:* | *10241748* |
| *Expiration Date:* | *02/2026* |
| *Storage Temperature:* | *-20°C* |
| *Storage Conditions:* | *10 mM Tris-HCl, 50 mM KCl, 10 mM (NH4)2SO4, 1 mM DTT, 0.1 mM EDTA, 200 µg/ml rAlbumin, 50 % Glycerol, (pH 7.5 @ 25°C)* |
| *Specification Version:* | *PS-M0238S v2.0* |

| **9°N™ DNA Ligase Component List** | | | |
|---|---|---|---|
| **NEB Part Number** | **Component Description** | **Lot Number** | **Individual QC Result** |
| M0238SVIAL | 9°N™ DNA Ligase | 10230152 | **Pass** |
| B0238SVIAL | 10X 9°N™ DNA Ligase Buffer | 10208718 | **Pass** |

| **Assay Name/Specification** | **Lot # 10241748** |
|---|---|
| **Endonuclease Activity (Nicking)**<br>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 37ºC results in <10% conversion to the nicked form as determined by agarose gel electrophoresis. | **Pass** |
| **Exonuclease Activity (Radioactivity Release)**<br>A 50 µl reaction in 9°N™ DNA Ligase Reaction Buffer containing 1 µg of a mixture of single and double-stranded [ $^3$H] E. coli DNA and a minimum of 400 units of 9°N™ DNA Ligase incubated for 4 hours at 37ºC releases <0.1% of the total radioactivity. | **Pass** |
| **Non-Specific DNase Activity (16 Hour)**<br>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 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | **Pass** |
| **RNase Activity (Extended Digestion)**<br>A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA | **Pass** |

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| Assay Name/Specification | Lot # 10241748 |
|---|---|
| and a minimum of 1 µl of 9°N™ DNA Ligase is incubated at 37ºC. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection. | |

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



Alison Dolan
Production Scientist
06 Feb 2024

Michael Tonello
Packaging Quality Control Inspector
23 May 2024