

New England Biolabs Product Specification

<i>Product Name:</i>	9 ^o N TM DNA Ligase
<i>Catalog #:</i>	M0238S
<i>Concentration:</i>	40,000 units/ml
<i>Unit Definition:</i>	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.
<i>Shelf Life:</i>	24 months
<i>Storage Temp:</i>	-20°C
<i>Storage Conditions:</i>	10 mM Tris-HCl, 50 mM KCl, 10 mM (NH ₄) ₂ SO ₄ , 1 mM DTT, 0.1 mM EDTA, 200 µg/ml rAlbumin, 50 % Glycerol, (pH 7.5 @ 25°C)
<i>Specification Version:</i>	PS-M0238S v2.0
<i>Effective Date:</i>	19 Feb 2024

Assay Name/Specification (minimum release criteria)

Endonuclease Activity (Nicking) - A 50 µl reaction in NEBuffer 4 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 400 units of 9^oNTM DNA Ligase incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.

Exonuclease Activity (Radioactivity Release) - A 50 µl reaction in 9^oNTM DNA Ligase Reaction Buffer containing 1 µg of a mixture of single and double-stranded [³H] *E. coli* DNA and a minimum of 400 units of 9^oNTM DNA Ligase incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.

Non-Specific DNase Activity (16 Hour) - A 50 µl reaction in NEBuffer 4 containing 1 µg of Lambda-HindIII DNA and a minimum of 80 units of 9^oNTM 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.

RNase Activity (Extended Digestion) - 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^oNTM 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.





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Date 19 Feb 2024

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Quality Approver

