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New England Biolabs Product Specification

Product Name: 9°NTM DNA Ligase

Catalog #: M0238S

Concentration: 40,000 units/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.

Shelf Life: 24 months
Storage Temp: -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
Effective Date: 19 Feb 2024

Assay Name/Specification (minimum release criteria)

Endonuclease Activity (Nicking) - A 50 μ l reaction in NEBuffer 4 containing 1 μ g of supercoiled PhiX174 DNA and a minimum of 400 units of 9°NTM 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 μ l reaction in 9°NTM DNA Ligase Reaction Buffer containing 1 μ g of a mixture of single and double-stranded [³H] *E. coli* DNA and a minimum of 400 units of 9°NTM DNA Ligase incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.

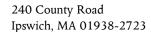
Non-Specific DNase Activity (16 Hour) - A 50 µl reaction in NEBuffer 4 containing 1 µg of Lambda-HindIII DNA and a minimum of 80 units of 9°NTM DNA Ligase incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

RNase Activity (Extended Digestion) - A 10 μ l reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 μ l of 9°NTM 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.

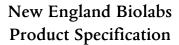








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Date 19 Feb 2024

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