

New England Biolabs Certificate of Analysis

Product Name: T4 RNA Ligase 2
Catalog Number: M0239S
Concentration: 10,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme required to ligate 0.4 µg of an equimolar mix of a 23-mer and 17-mer RNAs in a total reaction volume of 20 µl in 30 minutes at 37°C.
Packaging Lot Number: 10220914
Expiration Date: 12/2025
Storage Temperature: -20°C
Storage Conditions: 10 mM Tris-HCl, 50 mM KCl, 0.1 mM DTT, 0.1 mM EDTA, 35 mM (NH₄)₂SO₄, 50 % Glycerol, (pH 7.5 @ 25°C)
Specification Version: PS-M0239S/L v1.0

T4 RNA Ligase 2 Component List

NEB Part Number	Component Description	Lot Number	Individual QC Result
M0239SVIAL	T4 RNA Ligase 2 (dsRNA Ligase)	10213837	Pass
B0239SVIAL	T4 RNA Ligase 2 Reaction Buffer	10176272	Pass

Assay Name/Specification	Lot # 10220914
<p>Endonuclease Activity (Nicking) A 50 µl reaction in T4 RNA Ligase Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 100 units of T4 RNA Ligase 2 (dsRNA Ligase) incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	Pass
<p>Exonuclease Activity (Radioactivity Release) A 50 µl reaction in T4 RNA Ligase Reaction Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 100 units of T4 RNA Ligase 2 (dsRNA Ligase) incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.</p>	Pass
<p>Phosphatase Activity (pNPP) A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl₂ containing 2.5 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 100 units of T4 RNA Ligase 2 (dsRNA Ligase) incubated for 4 hours at 37°C yields <0.00001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.</p>	Pass

Assay Name/Specification	Lot # 10220914
<p>Protein Purity Assay (SDS-PAGE) T4 RNA Ligase 2 (dsRNA Ligase) is $\geq 99\%$ pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<p>RNase Activity (Extended Digestion) A 10 μl reaction in T4 RNA Ligase Reaction Buffer containing 40 ng of a 300 base single-stranded RNA and a minimum of 10 units of T4 RNA Ligase 2 (dsRNA Ligase) is incubated at 37°C. After incubation for 4 hours, $>90\%$ of the substrate RNA remains intact as determined by gel electrophoresis using agarose gel electrophoresis.</p>	Pass

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

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Production Scientist
29 Nov 2023



Josh Hersey
Packaging Quality Control Inspector
30 Nov 2023