

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.
Lot Number: 10039471
Expiration Date: 03/2021
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)	10039472	Pass
B0239SVIAL	T4 RNA Ligase 2 Reaction Buffer	10028358	Pass

Assay Name/Specification	Lot # 10039471
<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 # 10039471
<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.



Bo Wu
Production Scientist
12 Nov 2018



Michael Tonello
Packaging Quality Control Inspector
11 Jul 2019