NEW ENGLAND BioLabs Inc.
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New England Biolabs
Certificate of Analysis

Product Name:	*T4 RNA Ligase 2*
Catalog Number:	*M0239L*
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:	*10158106*
Expiration Date:	*06/2024*
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
M0239LVIAL	T4 RNA Ligase 2 (dsRNA Ligase)	10153955	**Pass**
B0239SVIAL	T4 RNA Ligase 2 Reaction Buffer	10156729	**Pass**

Assay Name/Specification	Lot # 10158106
Protein Purity Assay (SDS-PAGE) T4 RNA Ligase 2 (dsRNA Ligase) is ≥ 99% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	**Pass**
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.	**Pass**
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.	**Pass**
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in T4 RNA Ligase Reaction Buffer containing 1 µg of a mixture of	**Pass**

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Assay Name/Specification	Lot # 10158106
single and double-stranded [^{3}H] 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.	
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.	**Pass**

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

One or more products referenced in this document may be covered by a 3rd-party trademark. Please visit www.neb.com/trademarks for additional information.

Bhairavi Jani
Production Scientist
13 Jul 2022

Michael Tonello
Packaging Quality Control Inspector
13 Jul 2022