

## New England Biolabs Certificate of Analysis

**Product Name:** T4 RNA Ligase 1 (ssRNA Ligase)  
**Catalog Number:** M0437M  
**Concentration:** 30,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to convert 1 nanomole of 5'-[<sup>32</sup>P] rA16 into a phosphatase-resistant form in 30 minutes at 37°C.  
**Packaging Lot Number:** 10218905  
**Expiration Date:** 11/2025  
**Storage Temperature:** -20°C  
**Storage Conditions:** 10 mM Tris-HCl , 50 mM KCl , 1 mM DTT , 0.1 mM EDTA , 50 % Glycerol, (pH 7.4 @ 25°C)  
**Specification Version:** PS-M0437M v1.0

### T4 RNA Ligase 1 (ssRNA Ligase) Component List

NEB Part Number	Component Description	Lot Number	Individual QC Result
N0437AVIAL	ATP	10212848	Pass
M0437MVIAL	T4 RNA Ligase 1 (ssRNA Ligase), High Concentration	10212194	Pass
B1004SVIAL	PEG 8000	10181125	Pass
B0216SVIAL	T4 RNA Ligase Reaction Buffer	10181127	Pass

Assay Name/Specification	Lot # 10218905
<b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in T4 RNA Ligase 1 Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 30 units of T4 RNA Ligase 1 (ssRNA Ligase), High Concentration incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
<b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in T4 RNA Ligase 1 Reaction Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> H] E. coli DNA and a minimum of 30 units of T4 RNA Ligase 1 (ssRNA Ligase), High Concentration incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
<b>Protein Purity Assay (SDS-PAGE)</b> T4 RNA Ligase 1 (ssRNA Ligase), High Concentration is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass

Assay Name/Specification	Lot # 10218905
<p><b>RNase Activity (Extended Digestion)</b> A 10 µl reaction in NEBuffer 4 containing 40 ng of RNA transcript and a minimum of 30 units of T4 RNA Ligase 1 (ssRNA Ligase), High Concentration is incubated at 37°C. After incubation for 16 hours, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using gel electrophoresis.</p>	<b>Pass</b>
<p><b>qPCR DNA Contamination (E. coli Genomic)</b> A minimum of 10 units of T4 RNA Ligase 1 (ssRNA Ligase), High Concentration is screened for the presence of E. coli genomic DNA using SYBR® Green qPCR with primers specific for the E. coli 16S rRNA locus. Results are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is ≤ 1 E. coli genome.</p>	<b>Pass</b>

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

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Bo Wu  
Production Scientist  
16 Nov 2023



Josh Hersey  
Packaging Quality Control Inspector  
26 Nov 2023