

## New England Biolabs Certificate of Analysis

**Product Name:** T4 RNA Ligase 2, truncated KQ  
**Catalog Number:** M0373S  
**Concentration:** 200,000 U/ml  
**Unit Definition:** 200 units is defined as the amount of enzyme required to give 80% ligation of a 31-mer RNA to the pre-adenylated end of a 17-mer DNA in a total reaction volume of 20 µl in 1 hour at 25°C.  
**Lot Number:** 10008698  
**Expiration Date:** 04/2020  
**Storage Temperature:** -20°C  
**Storage Conditions:** 10 mM Tris-HCl, 100 mM NaCl, 0.1 mM EDTA, 0.1 mM DTT, 50 % Glycerol, (pH 7.5 @ 25°C)  
**Specification Version:** PS-M0373S/L v1.0

T4 RNA Ligase 2, truncated KQ Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0373SVIAL	T4 RNA Ligase 2, truncated KQ	0031804	Pass
B1004SVIAL	PEG 8000	0151708	Pass
B0216SVIAL	T4 RNA Ligase Reaction Buffer	10008137	Pass

Assay Name/Specification	Lot # 10008698
<b>Protein Purity Assay (SDS-PAGE)</b> T4 RNA Ligase 2, truncated KQ is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass
<b>Phosphatase Activity (pNPP)</b> A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl <sub>2</sub> containing 2.5 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 200 units of T4 RNA Ligase 2, truncated KQ incubated for 4 hours at 37°C yields <0.00001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.	Pass
<b>RNase Activity (Extended Digestion)</b> A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 200 units of T4 RNA Ligase 2, truncated KQ 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.	Pass
<b>Endonuclease Activity (Nicking)</b>	Pass

Assay Name/Specification	Lot # 10008698
<p>A 50 µl reaction in T4 RNA Ligase Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 200 units of T4 RNA Ligase 2, truncated KQ incubated for 4 hours at 37°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</p> <p><b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in T4 RNA Ligase Reaction Buffer containing 1 µg of a mixture of single and double-stranded [<sup>3</sup>H] E. coli DNA and a minimum of 200 units of T4 RNA Ligase 2, truncated KQ incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</p>	<p><b>Pass</b></p>

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



Bo Wu  
Production Scientist  
17 May 2018



Michael Tonello  
Packaging Quality Control Inspector  
21 Jun 2018