

New England Biolabs Product Specification

Product Name: *T4 RNA Ligase 2, truncated*

Catalog #: *M0242S/L*

Concentration: *200,000 units/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.*

Shelf Life: *24 months*

Storage Temp: *-20°C*

Storage Conditions: *100 mM NaCl, 10 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, (pH 7.4 @ 25°C)*

Specification Version: *PS-M0242S/L v2.0*

Effective Date: *11 Jul 2018*

Assay Name/Specification (minimum release criteria)

Endonuclease Activity (Nicking) - 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 incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.

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 200 units of T4 RNA Ligase 2, truncated incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.

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 200 units of T4 RNA Ligase 2, truncated incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.

Protein Purity Assay (SDS-PAGE) - T4 RNA Ligase 2, truncated is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.

RNase Activity (Extended Digestion) - 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 is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using polyacrylamide gel electrophoresis.



Date 11 Jul 2018

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Director of Quality Control

