

New England Biolabs Certificate of Analysis

Product Name: 5' DNA Adenylation Kit
Catalog #: E2610S/L
Kit Components: Mth RNA Ligase (M2611)
 5' DNA Adenylation Reaction Buffer (B2610)
 Adenosine 5' Triphosphate (N0757)

Lot #: 0031708
Assay Date: 08/2017
Expiration Date: 08/2019
Storage Temp: -20°C
Specification Version: PS-E2610S/L v1.0
Effective Date: 03 Apr 2018

Assay Name/Specification (minimum release criteria)	Lot #0031708
Endonuclease Activity (Nicking) - A 50 µl reaction in 1X 5' DNA Adenylation Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 50 pmol of Mth RNA Ligase incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
Exonuclease Activity (Radioactivity Release) - A 50 µl reaction in 1X 5' DNA Adenylation Reaction Buffer containing 1 µg of a mixture of single and double-stranded [³ H] <i>E. coli</i> DNA and a minimum of 50 pmol of Mth RNA Ligase incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
Functional Testing (Adenylation) - A 20 µl reaction in 1X 5' DNA Adenylation Reaction Buffer containing 100 pmol of 17 bp long 5'P-ssDNA linker (5'-pCTGTAGGCACCATCAAT-NH ₂ -3'), 0.1 mM ATP, and 100 pmol of Mth RNA Ligase incubated for 1 hour at 65°C results in ≥95% 5'P-ssDNA linker adenylated.	Pass
Phosphatase Activity (pNPP) - A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl ₂ containing 2.5 mM <i>p</i> -Nitrophenyl Phosphate (pNPP) and a minimum of 50 pmol of Mth RNA Ligase incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.	Pass
Protein Purity Assay (SDS-PAGE) - Mth RNA Ligase is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass
RNase Activity Assay (4 Hour Digestion) - A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 50 pmol of Mth RNA Ligase is incubated at 37°C. After incubation for 4 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	Pass



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* Individual Product Component Note - Standard Quality Control Tests are performed for each component included in 5' DNA Adenylation Kit and meet the designated specifications.	Pass



Authorized by
Derek Robinson
03 Apr 2018



Inspected by
Bo Wu
06 Apr 2018

