

New England Biolabs Certificate of Analysis

Product Name: T7 RNA Polymerase
Catalog Number: M0251L
Concentration: 50,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme that will incorporate 1 nmol ATP into acid-insoluble material in a total reaction volume of 50 µl in 1 hour at 37°C in 1X RNA Polymerase Reaction Buffer.
Packaging Lot Number: 10149083
Expiration Date: 02/2024
Storage Temperature: -20°C
Storage Conditions: 100 mM NaCl, 50 mM Tris-HCl (pH 7.9), 1 mM EDTA, 20 mM BME, 0.1 % Triton X-100, 50 % Glycerol
Specification Version: PS-M0251S/L v3.0

T7 RNA Polymerase Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0251LVIAL	T7 RNA Polymerase	10136946	Pass
B9012SVIAL	RNAPol Reaction Buffer	10140898	Pass

Assay Name/Specification	Lot # 10149083
<p>Non-Specific DNase Activity (16 Hour) A 50 µl reaction in RNAPol Reaction Buffer containing 1 µg of Lambda DNA and a minimum of 250 units of T7 RNA Polymerase incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	Pass
<p>RNase Activity (Extended Digestion) A 10 µl reaction in RNAPol Reaction Buffer containing 40 ng of a 300 base single-stranded RNA and a minimum of 50 units of T7 RNA Polymerase 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.</p>	Pass
<p>Protein Purity Assay (SDS-PAGE) T7 RNA Polymerase is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<p>Promoter Specificity A 50 µl reaction in RNAPol Reaction Buffer in the presence of 2 mM NTPs containing 1</p>	Pass

Assay Name/Specification	Lot # 10149083
<p>µg of Lambda DNA as a template and a minimum of 200 units of T7 RNA Polymerase incubated for 1 hour at 37°C results in <1.5% of the amount of product incorporated as compared to a control reaction using T7 DNA as a template.</p>	
<p>Endonuclease Activity (Nicking) A 50 µl reaction in RNAPol Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 150 units of T7 RNA Polymerase incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	Pass
<p>Exonuclease Activity (Radioactivity Release) A 50 µl reaction in RNAPol Reaction Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 150 units of T7 RNA Polymerase incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.</p>	Pass

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

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Production Scientist
19 May 2022



Erin Varney
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19 May 2022