

New England Biolabs Certificate of Analysis

Product Name: T3 RNA Polymerase
Catalog Number: M0378S
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: 10152089
Expiration Date: 08/2024
Storage Temperature: -20°C
Storage Conditions: 50 mM Tris-HCl, 100 mM NaCl, 1 mM EDTA, 20 mM βME, 0.1% Triton®X-100, 50% Glycerol, (pH 7.9 @ 25°C)
Specification Version: PS-M0378S v1.0

T3 RNA Polymerase Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0378SVIAL	T3 RNA Polymerase	10153914	Pass
B9012SVIAL	RNAPol Reaction Buffer	10140898	Pass

Assay Name/Specification	Lot # 10152089
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in RNAPol Reaction Buffer containing 1 µg of a mixture of single and double-stranded [³ H] E. coli DNA and a minimum of 150 units of T3 RNA Polymerase incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
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 T3 RNA Polymerase incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
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 T3 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.	Pass
Protein Purity Assay (SDS-PAGE)	Pass

Assay Name/Specification	Lot # 10152089
<p>T3 RNA Polymerase is $\geq 95\%$ pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p> <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 T3 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>	<p>Pass</p>

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

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Production Scientist
24 Aug 2022



Erin Varney
Packaging Quality Control Inspector
24 Aug 2022