

## New England Biolabs Certificate of Analysis

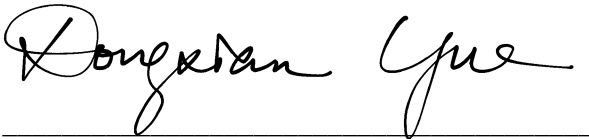
**Product Name:** T3 RNA Polymerase  
**Catalog Number:** M0378S  
**Concentration:** 50,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme that will incorporate 1 nmol ATP into acid-insoluble material in a total reaction volume of 50 µl in 1 hour at 37°C in 1X RNA Polymerase Reaction Buffer.  
**Packaging Lot Number:** 10060197  
**Expiration Date:** 12/2021  
**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	10060198	Pass
B9012SVIAL	RNAPol Reaction Buffer	10051065	Pass

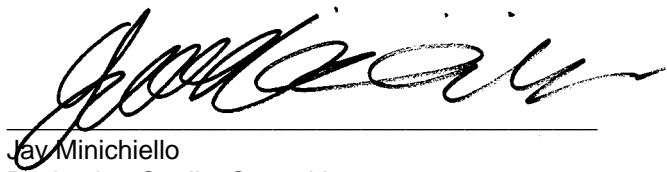
Assay Name/Specification	Lot # 10060197
<b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in RNAPol Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 150 units of T3 RNA Polymerase incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
<b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in RNAPol Reaction Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> 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
<b>Non-Specific DNase Activity (16 Hour)</b> 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
<b>Protein Purity Assay (SDS-PAGE)</b>	Pass

Assay Name/Specification	Lot # 10060197
<p>T3 RNA Polymerase is <math>\geq 95\%</math> pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p> <p><b>RNase Activity (Extended Digestion)</b> A 10 <math>\mu</math>l 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, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p>	<p><b>Pass</b></p>

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



Dongxian Yue  
Production Scientist  
11 Feb 2020



Jay Minichiello  
Packaging Quality Control Inspector  
11 Mar 2020