

## New England Biolabs Certificate of Analysis

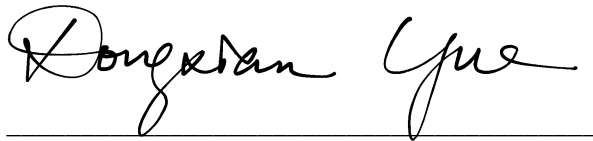
**Product Name:** SP6 RNA Polymerase  
**Catalog Number:** M0207S  
**Concentration:** 20,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to incorporate 1 nmol ATP into an acid-insoluble material in 1 hour at 37°C.  
**Lot Number:** 10018458  
**Expiration Date:** 08/2020  
**Storage Temperature:** -20°C  
**Storage Conditions:** 50 mM Tris-HCl, 100 mM NaCl, 20 mM βME, 1 mM EDTA, 0.1 % Triton®X-100, 50 % Glycerol, (pH 7.9 @ 25°C)  
**Specification Version:** PS-M0207S/L v1.0

SP6 RNA Polymerase Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0207SVIAL	SP6 RNA Polymerase	10018031	Pass
B9012SVIAL	RNAPol Reaction Buffer	0181804	Pass

Assay Name/Specification	Lot # 10018458
<p><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 100 units of SP6 RNA Polymerase incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</p>	Pass
<p><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 100 units of SP6 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><b>Promoter Specificity</b>            A 50 µl reaction in RNAPol Reaction Buffer in the presence of 2 mM NTPs containing 1 µg of Lambda DNA as a template and a minimum of 100 units of SP6 RNA Polymerase incubated for 1 hour at 37°C results in &lt;1.5% of the amount of product incorporated as compared to a control reaction using SP6 DNA as a template.</p>	Pass
<p><b>Protein Purity Assay (SDS-PAGE)</b>            SP6 RNA Polymerase is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie</p>	Pass

Assay Name/Specification	Lot # 10018458
<p>Blue detection.</p> <p><b>RNase Activity (Extended Digestion)</b> A 10 µl reaction in RNAPol Reaction Buffer containing 40 ng of a 300 base single-stranded RNA and a minimum of 20 units of SP6 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>Endonuclease Activity (Nicking)</b> A 50 µl reaction in RNAPol Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 100 units of SP6 RNA Polymerase incubated for 4 hours at 37°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	<p style="text-align: center;"><b>Pass</b></p>  <p style="text-align: center;"><b>Pass</b></p>

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



Dongxian Yue  
Production Scientist  
16 Aug 2018



Josh Hersey  
Packaging Quality Control Inspector  
21 Aug 2018