NEW ENGLAND BioLabs Inc.
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New England Biolabs
Certificate of Analysis

Product Name:	*SP6 RNA Polymerase*
Catalog Number:	*M0207L*
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:	*10020002*
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
M0207LVIAL	SP6 RNA Polymerase	10018030	**Pass**
B9012SVIAL	RNAPol Reaction Buffer	0181804	**Pass**

Assay Name/Specification	Lot # 10020002
Promoter Specificity 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 <1.5% of the amount of product incorporated as compared to a control reaction using SP6 DNA as a template.	**Pass**
Protein Purity Assay (SDS-PAGE) SP6 RNA Polymerase is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	**Pass**
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 20 units of SP6 RNA Polymerase is incubated at 37ºC. After incubation for 4 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	**Pass**
Endonuclease Activity (Nicking) 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 37ºC	**Pass**

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Assay Name/Specification	Lot # 10020002
results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	
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 100 units of SP6 RNA Polymerase incubated for 4 hours at 37ºC releases <0.1% of the total radioactivity.	**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 100 units of SP6 RNA Polymerase incubated for 16 hours at 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	**Pass**

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

Dongxian Yue
Production Scientist
16 Aug 2018

Michael Tonello
Packaging Quality Control Inspector
22 Jan 2019