

## New England Biolabs Certificate of Analysis

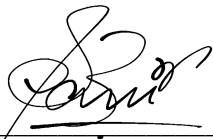
**Product Name:** *Vaccinia Capping System*  
**Catalog Number:** *M2080S*  
**Concentration:** *10,000 U/ml*  
**Unit Definition:** *One unit of Vaccinia Capping Enzyme is defined as the amount of enzyme required to incorporate 10 pmol of ( $\alpha^{32}P$ ) GTP into an 80 nt transcript in 1 hour at 37°C.*  
**Lot Number:** *10015143*  
**Expiration Date:** *05/2020*  
**Storage Temperature:** *-20°C*  
**Storage Conditions:** *100 mM NaCl , 20 mM Tris-HCl (pH 8.0), 1 mM DTT , 0.1 mM EDTA , 50 % Glycerol , 0.1 % Triton®X-100*  
**Specification Version:** *PS-M2080S v1.0*

Vaccinia Capping System Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
N2080AVIAL	GTP	10007446	Pass
M2080SVIAL	Vaccinia Capping System	10007443	Pass
B9003SVIAL	S-adenosylmethionine (SAM)	10008707	Pass
B2080AVIAL	10X Capping Buffer	10007434	Pass

Assay Name/Specification	Lot # 10015143
<b>Endonuclease Activity (Nicking)</b> A 50 $\mu$ l reaction in Capping Buffer containing 1 $\mu$ g of supercoiled PhiX174 DNA and a minimum of 10 units of Vaccinia Capping System 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 $\mu$ l reaction in Capping Buffer containing 1 $\mu$ g of a mixture of single and double-stranded [ $^3H$ ] E. coli DNA and a minimum of 10 units of Vaccinia Capping System incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
<b>Protein Purity Assay (SDS-PAGE)</b> Vaccinia Capping System is $\geq$ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass
<b>RNase Activity (Extended Digestion)</b> A 10 $\mu$ l reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA	Pass

Assay Name/Specification	Lot # 10015143
and a minimum of 10 units of Vaccinia Capping System 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.	

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



Bhairavi Jani  
Production Scientist  
18 May 2018



Michael Tonello  
Packaging Quality Control Inspector  
17 Jul 2018