

## 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.*  
**Packaging Lot Number:** *10094850*  
**Expiration Date:** *01/2023*  
**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	10094852	Pass
M2080SVIAL	Vaccinia Capping System	10094851	Pass
B9003SVIAL	S-adenosylmethionine (SAM)	10091460	Pass
B2080AVIAL	10X Capping Buffer	10093173	Pass

Assay Name/Specification	Lot # 10094850
<b>RNase Activity (Extended Digestion)</b> A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA 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.	Pass
<b>Protein Purity Assay (SDS-PAGE)</b> Vaccinia Capping System is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass
<b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in Capping Buffer containing 1 µg 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>Endonuclease Activity (Nicking)</b>	Pass

Assay Name/Specification	Lot # 10094850
A 50 µl reaction in Capping Buffer containing 1 µg 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.	

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

One or more products referenced in this document may be covered by a 3rd-party trademark. Please visit [www.neb.com/trademarks](http://www.neb.com/trademarks) for additional information.



Bhairavi Jani  
Production Scientist  
27 Jan 2021



Michael Tonello  
Packaging Quality Control Inspector  
27 Jan 2021