

## 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:** *10111303*  
**Expiration Date:** *05/2023*  
**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	10109320	Pass
M2080SVIAL	Vaccinia Capping System	10109319	Pass
B9003SVIAL	S-adenosylmethionine (SAM)	10106715	Pass
B2080AVIAL	10X Capping Buffer	10109321	Pass

Assay Name/Specification	Lot # 10111303
<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>RNase Activity (Extended Digestion)</b> A 10 $\mu$ l 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

Assay Name/Specification	Lot # 10111303
<b>Protein Purity Assay (SDS-PAGE)</b> Vaccinia Capping System is $\geq 95\%$ pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	<b>Pass</b>

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  
07 Jun 2021



Josh Hersey  
Packaging Quality Control Inspector  
07 Jun 2021