

## New England Biolabs Certificate of Analysis

*Product Name:* Vaccinia Capping System  
*Catalog #:* M2080S  
*Concentration:* 10,000 units/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 #:* 0401607  
*Assay Date:* 07/2016  
*Expiration Date:* 7/2018  
*Storage Temp:* -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  
*Effective Date:* 16 Dec 2015

Assay Name/Specification (minimum release criteria)	Lot #0401607
<b>Endonuclease Activity (Nicking)</b> - 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.	<b>Pass</b>
<b>Exonuclease Activity (Radioactivity Release)</b> - A 50 µl reaction in Capping Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> H] <i>E. coli</i> 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.	<b>Pass</b>
<b>Protein Purity Assay (SDS-PAGE)</b> - Vaccinia Capping System is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	<b>Pass</b>
<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.	<b>Pass</b>



Authorized by  
Derek Robinson  
16 Dec 2015



Inspected by  
Bhairavi Jani  
21 Jul 2016

