NEW ENGLAND BioLabs® Inc.

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New England Biolabs
Certificate of Analysis

Product Name:	*Vaccinia Capping System*
Catalog #:	*M2080B-MT*
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 (α^{32}P) GTP into an 80 nt transcript in 1 hour at 37°C.*
Lot #:	*0351506*
Assay Date:	*06/2015*
Expiration Date:	*06/2017*
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:	*13 Apr 2015*

Assay Name/Specification (minimum release criteria)	**Lot #0351506**
Endonuclease Activity (Nicking) - 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.	**Pass**
Exonuclease Activity (Radioactivity Release) - A 50 µl reaction in Capping Buffer containing 1 µg of a mixture of single and double-stranded [^{3}H] *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**
Protein Purity Assay (SDS-PAGE) - Vaccinia Capping System is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	**Pass**
RNase Activity (Extended Digestion) - 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**

Authorized by
Derek Robinson
13 Apr 2015

Inspected by
Bhairavi Jani
07 Jul 2015

ISO 9001 Registered Quality Management
ISO 14001 Registered Environmental Management
ISO 13485 Registered Medical Devices