NEW ENGLAND BioLabs Inc.
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240 County Road
Ipswich, MA 01938-2723
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Fax 978-921-1350
www.neb.com
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New England Biolabs
Certificate of Analysis

Product Name:	*Faustovirus Capping Enzyme*
Catalog Number:	*M2081L*
Concentration:	*25,000 U/ml*
Unit Definition:	*One unit of Faustovirus Capping Enzyme is defined as the amount of enzyme required to convert 75 pmol of a 20-mer transcript to Cap-0 RNA in 30 minutes at 37°C.*
Packaging Lot Number:	*10206086*
Expiration Date:	*04/2025*
Storage Temperature:	*-20°C*
Storage Conditions:	*40 mM Tris-HCl, 100 mM NaCl, 50 mM Arginine, 0.1 mM TCEP, 50% Glycerol, (pH 8.0 @ 25°C)*
Specification Version:	*PS-M2081S/L v1.0*

Faustovirus Capping Enzyme Component List			
NEB Part Number	**Component Description**	**Lot Number**	**Individual QC Result**
N2080AAVIAL	GTP	10204305	**Pass**
M2081LVIAL	Faustovirus Capping Enzyme	10186185	**Pass**
B9003SVIAL	S-adenosylmethionine (SAM)	10193027	**Pass**
B2181AVIAL	FCE Capping Buffer	10203261	**Pass**

Assay Name/Specification	**Lot # 10206086**
Endonuclease Activity (Nicking) A 50 µl reaction in FCE Capping Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 25 units of Faustovirus Capping Enzyme incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	**Pass**
Endonuclease Activity (Nicking) A 50 µl reaction in FCE Capping Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 25 units of Faustovirus Capping Enzyme 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 FCE Capping Buffer containing 1 µg of a mixture of single and double-stranded [^{3}H] E. coli DNA and a minimum of 25 units of Faustovirus Capping Enzyme incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	**Pass**

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Exonuclease Activity (Radioactivity Release) A 50 µl reaction in FCE Capping Buffer containing 1 µg of a mixture of single and double-stranded [^{3}H] E. coli DNA and a minimum of 25 units of Faustovirus Capping Enzyme incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	**Pass**
Protein Purity Assay (SDS-PAGE) Faustovirus Capping Enzyme is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	**Pass**
Protein Purity Assay (SDS-PAGE) Faustovirus Capping Enzyme 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 25 units of Faustovirus Capping Enzyme 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**
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 25 units of Faustovirus Capping Enzyme 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**
qPCR DNA Contamination (E. coli Genomic) A minimum of 25 units of Faustovirus Capping Enzyme is screened for the presence of E. coli genomic DNA using SYBR® Green qPCR with primers specific for the E. coli 16S rRNA locus. Results are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is ≤ 1 E. coli genome.	**Pass**
qPCR DNA Contamination (E. coli Genomic) A minimum of 25 units of Faustovirus Capping Enzyme is screened for the presence of E. coli genomic DNA using SYBR® Green qPCR with primers specific for the E. coli 16S rRNA locus. Results are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is ≤ 1 E. coli genome.	**Pass**

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

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www.neb.com/trademarks for additional information.

Jessica Cane
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31 Mar 2023

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21 Aug 2023