

New England Biolabs Certificate of Analysis

Product Name: *Faustovirus Capping Enzyme*
Catalog Number: *M2081S*
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: *10160698*
Expiration Date: *07/2024*
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
N2080AVIAL	GTP	10156182	Pass
M2081SVIAL	Faustovirus Capping Enzyme	10159876	Pass
B9003SVIAL	S-adenosylmethionine (SAM)	10153874	Pass
B2181AVIAL	FCE Capping Buffer	10158263	Pass


Assay Name/Specification	Lot # 10160698
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
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

Assay Name/Specification	Lot # 10160698
<p>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.</p>	Pass
<p>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.</p>	Pass
<p>Protein Purity Assay (SDS-PAGE) Faustovirus Capping Enzyme is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<p>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.</p>	Pass
<p>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.</p>	Pass
<p>Exonuclease Activity (Radioactivity Release) A 50 µl reaction in FCE Capping Buffer containing 1 µg of a mixture of single and double-stranded [³H] 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.</p>	Pass
<p>Protein Purity Assay (SDS-PAGE) Faustovirus Capping Enzyme is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	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

www.neb.com/trademarks for additional information.



Bhairavi Jani
Production Scientist
29 Jul 2022



Michael Tonello
Packaging Quality Control Inspector
29 Jul 2022