

## 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:** *10189866*  
**Expiration Date:** *09/2024*  
**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
N2080AAVIAL	GTP	10178543	Pass
M2081LVIAL	Faustovirus Capping Enzyme	10186185	Pass
B9003SVIAL	S-adenosylmethionine (SAM)	10179342	Pass
B2181AVIAL	FCE Capping Buffer	10203261	Pass

Assay Name/Specification	Lot # 10189866
<b>Endonuclease Activity (Nicking)</b> 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
<b>Endonuclease Activity (Nicking)</b> 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
<b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in FCE Capping Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> 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

Assay Name/Specification	Lot # 10189866
<p><b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in FCE Capping Buffer containing 1 µg of a mixture of single and double-stranded [<sup>3</sup>H] E. coli DNA and a minimum of 25 units of Faustovirus Capping Enzyme incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</p>	<b>Pass</b>
<p><b>Protein Purity Assay (SDS-PAGE)</b> Faustovirus Capping Enzyme is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	<b>Pass</b>
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<p><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 25 units of Faustovirus Capping Enzyme is incubated at 37°C. After incubation for 4 hours, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p>	<b>Pass</b>
<p><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 25 units of Faustovirus Capping Enzyme is incubated at 37°C. After incubation for 4 hours, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p>	<b>Pass</b>
<p><b>qPCR DNA Contamination (E. coli Genomic)</b> 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>	<b>Pass</b>
<p><b>qPCR DNA Contamination (E. coli Genomic)</b> 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>	<b>Pass</b>

This product has been tested and shown to be in compliance with all specifications.

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17 Mar 2023



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