

## New England Biolabs Certificate of Analysis

**Product Name:** EcoGII Methyltransferase  
**Catalog Number:** M0603S  
**Concentration:** 5,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to completely protect 100 ng of a FAM-labeled dsDNA substrate in 30 minutes at 37°C in a total reaction volume of 20 µL against cleavage by MboI restriction endonuclease as determined by capillary electrophoresis.  
**Lot Number:** 10027768  
**Expiration Date:** 11/2020  
**Storage Temperature:** -20°C  
**Storage Conditions:** 250 mM NaCl, 10 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, 0.15 % TritonX-100, 200 µg/ml BSA, (pH 7.4 @ 25°C)  
**Specification Version:** PS-M0603S/L v1.0

EcoGII Methyltransferase Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0603SVIAL	EcoGII Methyltransferase	10027769	Pass
B9003SVIAL	S-adenosylmethionine (SAM)	10018391	Pass
B7204SVIAL	CutSmart® Buffer	10021118	Pass


Assay Name/Specification	Lot # 10027768
<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 1 µl of EcoGII Methyltransferase 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
<b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in CutSmart® Buffer containing 1 µg of supercoiled pBR322 DNA and a minimum of 25 units of EcoGII Methyltransferase 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 CutSmart® 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 EcoGII Methyltransferase incubated for 4 hours at 37°C releases <0.1% of the total	Pass

Assay Name/Specification	Lot # 10027768
<p>radioactivity.</p> <p><b>Functional Testing (Methyltransferase)</b> A 20 µl reaction in CutSmart® Buffer supplemented with 160 µM SAM containing 100 ng of an 80 bp FAM-labeled dsDNA substrate and 0.5 units of EcoGII Methyltransferase incubated for 30 minutes at 37°C followed by heat inactivation results in ≥ 70% protection from digestion with 5 units of MboI incubated at 37°C for 30 minutes as determined by capillary electrophoresis.</p>	<b>Pass</b>
<p><b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in CutSmart® Buffer containing 1 µg of Lambda DNA and a minimum of 25 units of EcoGII Methyltransferase incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	<b>Pass</b>
<p><b>Protein Purity Assay (SDS-PAGE)</b> EcoGII Methyltransferase is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	<b>Pass</b>

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



Tony Spear-Alfonso  
Production Scientist  
21 Aug 2018



Michael Tonello  
Packaging Quality Control Inspector  
08 Nov 2018