

## 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.  
**Packaging Lot Number:** 10236802  
**Expiration Date:** 04/2026  
**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, 180 µg/ml BSA, (pH 7.4 @ 25°C)  
**Specification Version:** PS-M0603S/L v2.0

EcoGII Methyltransferase Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0603SVIAL	EcoGII Methyltransferase	10234146	Pass
B9003SVIAL	S-adenosylmethionine (SAM)	10233985	Pass
B6004SVIAL	rCutSmart™ Buffer	10235561	Pass

Assay Name/Specification	Lot # 10236802
<b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in rCutSmart™ 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.	<b>Pass</b>
<b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in rCutSmart™ 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 radioactivity.	<b>Pass</b>
<b>Functional Testing (Methyltransferase)</b> A 20 µl reaction in rCutSmart™ 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%	<b>Pass</b>

Assay Name/Specification	Lot # 10236802
protection from digestion with 5 units of MboI incubated at 37°C for 30 minutes as determined by capillary electrophoresis.	
<p><b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in rCutSmart™ 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>
<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 1 µl of EcoGII Methyltransferase 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>

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

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