

New England Biolabs Certificate of Analysis

Product Name: *Ecil*
Catalog Number: *R0590L*
Concentration: *2,000 U/ml*
Unit Definition: *One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA in rCutSmart Buffer in 1 hour at 37°C in a total reaction volume of 50 µl.*
Packaging Lot Number: *10184398*
Expiration Date: *03/2024*
Storage Temperature: *-20°C*
Storage Conditions: *10 mM Tris-HCl, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml rAlbumin (pH 7.4 @ 25°C)*
Specification Version: *PS-R0590S/L v2.0*

Ecil Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0590LVIAL	Ecil	10184105	Pass
B6004SVIAL	rCutSmart™ Buffer	10181134	Pass

Assay Name/Specification	Lot # 10184398
<p>Exonuclease Activity (Radioactivity Release) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 2 units of Ecil incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.</p>	Pass
<p>Ligation and Recutting (Terminal Integrity) After a 2-fold over-digestion of Lambda DNA with Ecil, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, >95% can be recut with Ecil.</p>	Pass
<p>Non-Specific DNase Activity (16 hour) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 2 units of Ecil incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. NOTE: although no nuclease degradation is detected under these conditions, extended incubations and/or high concentrations of this enzyme may result in star activity. See the product FAQ for recommended reaction conditions for this enzyme.</p>	Pass

Assay Name/Specification	Lot # 10184398
<p>Protein Purity Assay (SDS-PAGE) Ecil 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 2 units of Ecil 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

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

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YunJie Sun
Production Scientist
23 Mar 2023



Josh Hersey
Packaging Quality Control Inspector
07 Apr 2023