

New England Biolabs Certificate of Analysis

Product Name: Acul
Catalog Number: R0641S
Concentration: 5,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA in 1 hour at 37°C in a total reaction volume of 50 µl.
Lot Number: 10010812
Expiration Date: 06/2020
Storage Temperature: -20°C
Storage Conditions: 100 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml BSA
Specification Version: PS-R0641S/L v2.0

Acul Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0641SVIAL	Acul	10010813	Pass
B9003SVIAL	S-adenosylmethionine (SAM)	10008707	Pass
B7204SVIAL	CutSmart® Buffer	3081804	Pass

Assay Name/Specification	Lot # 10010812
Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 5 units of Acul incubated for 4 hours at 37°C results in <50% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³ H] E. coli DNA and a minimum of 25 units of Acul incubated for 4 hours at 37°C releases <0.2% of the total radioactivity.	Pass
Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of Lambda DNA with Acul, ~50% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, ~75% can be recut with Acul.	Pass
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 5 Units of Acul incubated for 16 hours at 37°C results in a DNA pattern free of	Pass

Assay Name/Specification	Lot # 10010812
<p>detectable nuclease degradation as determined by agarose gel electrophoresis.</p> <p>Protein Purity Assay (SDS-PAGE) Acul is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</p>	<p>Pass</p>

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



Ben Penta
Production Scientist
06 Jun 2018



Michael Tonello
Packaging Quality Control Inspector
13 Jun 2018