

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: 10044781
Expiration Date: 05/2021
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	10044782	Pass
B9003SVIAL	S-adenosylmethionine (SAM)	10046083	Pass
B7204SVIAL	CutSmart® Buffer	10043347	Pass

Assay Name/Specification	Lot # 10044781
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 detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
Protein Purity Assay (SDS-PAGE) Acul is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	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

Assay Name/Specification	Lot # 10044781
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

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



Stephanie Cornelio
Production Scientist
10 May 2019



Michael Tonello
Packaging Quality Control Inspector
08 Jul 2019