

*be* INSPIRED *drive* DISCOVERY *stay* GENUINE

240 County Road Ipswich, MA 01938-2723 Tel 978-927-5054 Fax 978-921-1350 www.neb.com info@neb.com

## 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 $\mu$ g of Lambda DNA in 1 hour at 37°C in a total reaction volume of 50 $\mu$ l.
Packaging Lot Number:	10090884
Expiration Date:	11/2022
Storage Temperature:	-20°C
Storage Conditions:	10 mM Tris-HCl, 100 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 0.32 mM S-adenosylmethionine (SAM), 50% Glycerol, 200 $\mu$ g/ml BSA (pH 7.4 @ 25°C)
Specification Version:	PS-R0641S/L v3.0

Acul Component List				
NEB Part Number	Component Description	Lot Number	Individual QC Result	
R0641SVIAL	Acul	10090883	Pass	
B7204SVIAL	CutSmart® Buffer	10089402	Pass	

Assay Name/Specification	Lot # 10090884
Protein Purity Assay (SDS-PAGE)	Pass
Acul is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	
Ligation and Recutting (Terminal Integrity)	Pass
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.	
Exonuclease Activity (Radioactivity Release)	Pass
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 Acul incubated for 4 hours at 37°C releases <0.2% of the total radioactivity.	
Non-Specific DNase Activity (16 Hour)	Pass
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.	





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Assay Name/Specification	Lot # 10090884
Endonuclease Activity (Nicking)	Pass
A 50 µl reaction in CutSmart <sup>™</sup> 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.	

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

One or more products referenced in this document may be covered by a 3rd-party trademark. Please visit www.neb.com/trademarks for additional information.

Penghua Zhang

Penghua Zhang Production Scientist 28 Nov 2020

Josh Hersey

Packaging Quality Control Inspector 28 Nov 2020

