NEW ENGLAND BioLabs Inc.
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:	*AcuI*
Catalog Number:	*R0641L*
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.*
Packaging Lot Number:	*10130965*
Expiration Date:	*12/2023*
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 µg/ml BSA (pH 7.4 @ 25°C)*
Specification Version:	*PS-R0641S/L v3.0*

AcuI Component List			
NEB Part Number	**Component Description**	**Lot Number**	**Individual QC Result**
R0641LVIAL	AcuI	10130964	**Pass**
B6004SVIAL	rCutSmart™ Buffer	10127377	**Pass**

Assay Name/Specification	**Lot # 10130965**
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 AcuI incubated for 16 hours at 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	**Pass**
Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of Lambda DNA with AcuI, ~50% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16ºC. Of these ligated fragments, ~75% can be recut with AcuI.	**Pass**
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 25 units of AcuI incubated for 4 hours at 37ºC releases <0.2% of the total radioactivity.	**Pass**
Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 5 units of AcuI incubated for 4 hours at 37ºC results in <50%	**Pass**

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Assay Name/Specification	Lot # 10130965
conversion to the nicked form as determined by agarose gel electrophoresis. **Protein Purity Assay (SDS-PAGE)** AcuI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	**Pass**

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
Production Scientist
09 Dec 2021

Michael Tonello
Packaging Quality Control Inspector
09 Dec 2021