

## New England Biolabs Certificate of Analysis

**Product Name:** Ascl  
**Catalog Number:** R0558S  
**Concentration:** 10,000 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:** 10091545  
**Expiration Date:** 11/2022  
**Storage Temperature:** -20°C  
**Storage Conditions:** 50 mM KCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml BSA  
**Specification Version:** PS-R0558S/L v1.0

Ascl Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0558SVIAL	Ascl	10091544	Pass
B7204SVIAL	CutSmart® Buffer	10091031	Pass
B7024AVIAL	Gel Loading Dye, Purple (6X)	10089401	Pass

Assay Name/Specification	Lot # 10091545
<b>Exonuclease Activity (Radioactivity Release)</b> 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 100 units of Ascl incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
<b>Ligation and Recutting (Terminal Integrity)</b> After a 10-fold over-digestion of Lambda DNA with Ascl, >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 Ascl.	Pass
<b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 30 Units of Ascl incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
<b>Blue-White Screening (Terminal Integrity)</b> A sample of pNEB193 vector linearized with a 10-fold excess of Ascl, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in	Pass

Assay Name/Specification	Lot # 10091545
<p>&lt;1% white colonies.</p> <p><b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 30 Units of Ascl incubated for 4 hours at 37°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	<p><b>Pass</b></p>

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

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14 Dec 2020




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14 Dec 2020