

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 rCutSmart Buffer in 1 hour at 37°C in a total reaction volume of 50 µl.
Packaging Lot Number: 10205249
Expiration Date: 07/2025
Storage Temperature: -20°C
Storage Conditions: 10 mM Tris-HCl, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml rAlbumin (pH 7.4 @ 25°C)
Specification Version: PS-R0558S/L v2.0

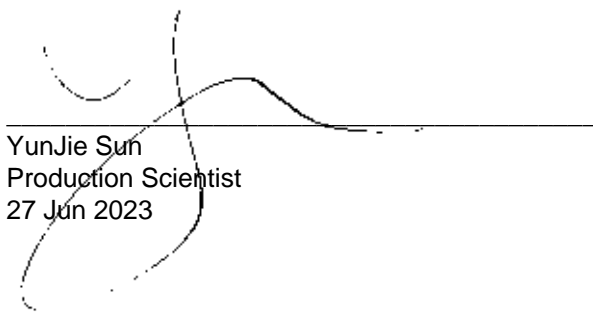
| Ascl Component List | | | |
|---------------------|------------------------------|------------|----------------------|
| NEB Part Number | Component Description | Lot Number | Individual QC Result |
| R0558SVIAL | Ascl | 10197917 | Pass |
| B7024AVIAL | Gel Loading Dye, Purple (6X) | 10198639 | Pass |
| B6004SVIAL | rCutSmart™ Buffer | 10198644 | Pass |

| Assay Name/Specification | Lot # 10205249 |
|---|----------------|
| Blue-White Screening (Terminal Integrity) 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 <1% white colonies. | Pass |
| Endonuclease Activity (Nicking) A 50 µl reaction in rCutSmart™ 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 <10% conversion to the nicked form as determined by agarose gel electrophoresis. | Pass |
| Exonuclease Activity (Radioactivity Release) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³ 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 |
| Functional Testing (15 minute Digest) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of Lambda DNA and 1 µl of Ascl | Pass |

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|---|----------------|
| <p>incubated for 15 minutes at 37°C results in complete digestion as determined by agarose gel electrophoresis.</p> | |
| <p>Ligation and Recutting (Terminal Integrity) 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.</p> | Pass |
| <p>Non-Specific DNase Activity (16 Hour) A 50 µl reaction in rCutSmart™ 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.</p> | Pass |
| <p>Protein Purity Assay (SDS-PAGE) Ascl is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p> | Pass |

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

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Production Scientist
27 Jun 2023



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31 Aug 2023