

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.*
Lot Number: *10054227*
Expiration Date: *05/2021*
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 | 10044948 | Pass |
| B7204SVIAL | CutSmart® Buffer | 10053981 | Pass |
| B7024SVIAL | Gel Loading Dye, Purple (6X) | 10047936 | Pass |

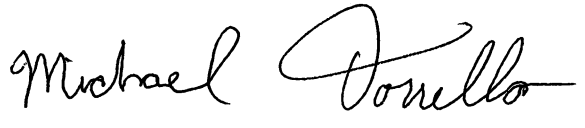
| Assay Name/Specification | Lot # 10054227 |
|--|----------------|
| Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 30 Units of Ascl incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis. | 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 100 units of Ascl incubated for 4 hours at 37°C releases <0.1% of the total radioactivity. | Pass |
| 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. | Pass |
| Non-Specific DNase Activity (16 Hour) 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 | Pass |

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|---|--------------------|
| <p>detectable nuclease degradation as determined by agarose gel electrophoresis.</p> <p>Blue-White Screening (Terminal Integrity) A sample of pNEB193 vector linearized with a 10-fold excess of <i>Ascl</i>, religated and transformed into an <i>E. coli</i> strain expressing the LacZ beta fragment gene results in <1% white colonies.</p> | <p>Pass</p> |

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



Anthony Francis
Production Scientist
20 May 2019



Michael Tonello
Packaging Quality Control Inspector
24 Sep 2019