

## New England Biolabs Certificate of Analysis

**Product Name:** *Clal*  
**Catalog Number:** *R0197L*  
**Concentration:** *10,000 U/ml*  
**Unit Definition:** *One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA (dam-) in 1 hour at 37°C in a total reaction volume of 50 µl.*  
**Packaging Lot Number:** *10078399*  
**Expiration Date:** *07/2022*  
**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-R0197S/L v1.0*

| Clal Component List |                              |            |                      |
|---------------------|------------------------------|------------|----------------------|
| NEB Part Number     | Component Description        | Lot Number | Individual QC Result |
| R0197LVIAL          | Clal                         | 10078398   | Pass                 |
| B7204SVIAL          | CutSmart® Buffer             | 10075571   | Pass                 |
| B7024SVIAL          | Gel Loading Dye, Purple (6X) | 10071082   | Pass                 |

| Assay Name/Specification   | Lot # 10078399 |
|--|----------------|
| <b>Endonuclease Activity (Nicking)</b><br>A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 30 Units of Clal incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.            | Pass           |
| <b>Exonuclease Activity (Radioactivity Release)</b><br>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 Clal incubated for 4 hours at 37°C releases <0.1% of the total radioactivity. | Pass           |
| <b>Ligation and Recutting (Terminal Integrity)</b><br>After a 10-fold over-digestion of Lambda dam- DNA with Clal, >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 Clal.                                     | Pass           |
| <b>Non-Specific DNase Activity (16 Hour)</b><br>A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda dam- DNA and a  | Pass           |

| Assay Name/Specification  | Lot # 10078399     |
|---|--------------------|
| <p>minimum of 100 Units of Clal incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p> <p><b>Protein Purity Assay (SDS-PAGE)</b><br/>Clal is &gt;95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</p> | <p><b>Pass</b></p> |

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



Penghua Zhang  
Production Scientist  
21 Jul 2020



Michael Tonello  
Packaging Quality Control Inspector  
21 Jul 2020