

## New England Biolabs Certificate of Analysis

**Product Name:** *Aval*  
**Catalog Number:** *R0152M*  
**Concentration:** *50,000 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:** *10013021*  
**Expiration Date:** *06/2020*  
**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-R0152T/M v1.0*

| Aval Component List |                       |            |                      |
|---------------------|-----------------------|------------|----------------------|
| NEB Part Number     | Component Description | Lot Number | Individual QC Result |
| R0152MVIAL          | Aval                  | 10013022   | Pass                 |
| B7204SVIAL          | CutSmart® Buffer      | 3081804    | Pass                 |

| Assay Name/Specification   | Lot # 10013021 |
|--|----------------|
| <p><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 Aval incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</p>   | Pass           |
| <p><b>Blue-White Screening (Terminal Integrity)</b><br/>           A sample of pUC19 vector linearized with a 10-fold excess of Aval, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in &lt;1% white colonies.</p>  | Pass           |
| <p><b>Non-Specific DNase Activity (16 Hour)</b><br/>           A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 100 Units of Aval 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><b>Ligation and Recutting (Terminal Integrity)</b><br/>           After a 20-fold over-digestion of Lambda DNA with Aval, &gt;95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, &gt;95% can be recut with Aval.</p>                                       | Pass           |

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

 

Anthony Francis  
Production Scientist  
27 Jun 2018



Mary Conlon  
Packaging Quality Control Inspector  
28 Jun 2018