

## New England Biolabs Certificate of Analysis

**Product Name:** Haell  
**Catalog Number:** R0107L  
**Concentration:** 20,000 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:** 10064265  
**Expiration Date:** 01/2022  
**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-R0107S/L v1.0

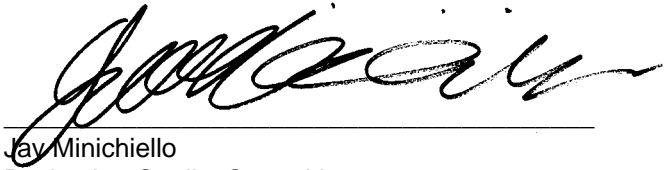
Haell Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0107LVIAL	Haell	10064266	Pass
B7204SVIAL	CutSmart® Buffer	10064410	Pass

Assay Name/Specification	Lot # 10064265
<p><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 Haell incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</p>	Pass
<p><b>Ligation and Recutting (Terminal Integrity)</b>            After a 10-fold over-digestion of Lambda DNA with Haell, &gt;95% of the DNA fragments can be ligated with T4 DNA ligase in 4 hours at 25°C. Of these ligated fragments, &gt;95% can be recut with Haell.</p>	Pass
<p><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 20 units of Haell incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. NOTE: although no nuclease degradation is detected under these conditions, extended incubations and/or high concentrations of this enzyme may result in star activity. See the product FAQ for recommended reaction conditions for this enzyme.</p>	Pass

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



Jianying Luo  
Production Scientist  
16 Jan 2020



Jay Minichiello  
Packaging Quality Control Inspector  
19 Feb 2020