

New England Biolabs Certificate of Analysis

Product Name: *HhaI*
Catalog Number: *R0139L*
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 rCutSmart Buffer in 1 hour at 37°C in a total reaction volume of 50 µl.*
Packaging Lot Number: *10152716*
Expiration Date: *06/2024*
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-R0139S/L v2.0*

HhaI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0139LVIAL	HhaI	10152715	Pass
B6004SVIAL	rCutSmart™ Buffer	10149689	Pass

Assay Name/Specification	Lot # 10152716
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 60 units of HhaI 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 HhaI incubated for 15 minutes at 37°C results in complete digestion as determined by agarose gel electrophoresis.	Pass
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 60 units of HhaI incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
qPCR DNA Contamination (E. coli Genomic) A minimum of 20 units of HhaI is screened for the presence of E. coli genomic DNA using SYBR® Green qPCR with primers specific for the E. coli 16S rRNA locus. Results	Pass

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<p>are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is ≤ 1 E. coli genome.</p> <p>Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of Lambda DNA with HhaI, >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 HhaI.</p>	<p>Pass</p>

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

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Penghua Zhang
Production Scientist
12 Jul 2022



Michael Tonello
Packaging Quality Control Inspector
12 Jul 2022