

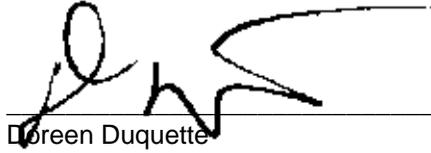
New England Biolabs Certificate of Analysis

Product Name: HhaI
Catalog Number: R0139S
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.
Lot Number: 10041007
Expiration Date: 03/2021
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-R0139S/L v1.0

HhaI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0139SVIAL	HhaI	10041008	Pass
B7204SVIAL	CutSmart® Buffer	10031569	Pass

Assay Name/Specification	Lot # 10041007
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 60 units of HhaI 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 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.	Pass
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart™ 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

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



Doreen Duquette
Production Scientist
20 Mar 2019



Josh Hersey
Packaging Quality Control Inspector
16 Apr 2019