

## New England Biolabs Certificate of Analysis

**Product Name:** HpyCH4III  
**Catalog Number:** R0618L  
**Concentration:** 5,000 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:** 10030096  
**Expiration Date:** 11/2020  
**Storage Temperature:** -20°C  
**Storage Conditions:** 100 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml BSA  
**Specification Version:** PS-R0618S/L v2.0

HpyCH4III Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0618LVIAL	HpyCH4III	10030097	Pass
B7204SVIAL	CutSmart® Buffer	10021122	Pass

Assay Name/Specification	Lot # 10030096
<p><b>Ligation and Recutting (Terminal Integrity)</b>            After a 5-fold over-digestion of Lambda DNA with HpyCH4III, ~50% 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 HpyCH4III.</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 5 units of HpyCH4III 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>Single Stranded DNase Activity (FAM-Labeled Oligo)</b>            A 50 µl reaction in CutSmart® Buffer containing a 20 nM solution of a fluorescent internal labeled oligonucleotide and a minimum of 25 units of HpyCH4III incubated for 16 hours at 37°C yields &lt;5% degradation as determined by capillary electrophoresis.</p>	Pass
<p><b>DNase Activity (Labeled Oligo, 3' extension)</b>            A 50 µl reaction in CutSmart® Buffer containing a 20 nM solution of a fluorescent labeled double-stranded oligonucleotide containing a 3' extension and a minimum of</p>	Pass

Assay Name/Specification	Lot # 10030096
<p>25 units of HpyCH4III incubated for 16 hours at 37°C yields &lt;5% degradation as determined by capillary electrophoresis.</p> <p><b>DNase Activity (Labeled Oligo, 5' extension)</b> A 50 µl reaction in CutSmart® Buffer containing a 20 nM solution of a fluorescent labeled double-stranded oligonucleotide containing a 5' extension and a minimum of 25 units of HpyCH4III incubated for 16 hours at 37°C yields &lt;5% degradation as determined by capillary electrophoresis.</p> <p><b>Double Stranded DNase Activity (Labeled Oligo)</b> A 50 µl reaction in CutSmart® Buffer containing a 20 nM solution of a fluorescent labeled double-stranded oligonucleotide containing a blunt end and a minimum of 25 units of HpyCH4III incubated for 16 hours at 37°C yields &lt;5% degradation as determined by capillary electrophoresis.</p>	<p style="text-align: center;"><b>Pass</b></p> <p style="text-align: center;"><b>Pass</b></p>

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



Tony Spear-Alfonso  
Production Scientist  
08 Nov 2018



Michael Tonello  
Packaging Quality Control Inspector  
03 Dec 2018