

## New England Biolabs Certificate of Analysis

**Product Name:** *Mlul-HF<sup>®</sup>*  
**Catalog Number:** *R3198S*  
**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:** *10078568*  
**Expiration Date:** *05/2022*  
**Storage Temperature:** *-20°C*  
**Storage Conditions:** *200 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-R3198S/L v1.0*

<b>Mlul-HF<sup>®</sup> Component List</b>			
<b>NEB Part Number</b>	<b>Component Description</b>	<b>Lot Number</b>	<b>Individual QC Result</b>
R3198SVIAL	Mlul-HF <sup>®</sup>	10073725	<b>Pass</b>
B7204SVIAL	CutSmart <sup>®</sup> Buffer	10077115	<b>Pass</b>
B7024SVIAL	Gel Loading Dye, Purple (6X)	10075962	<b>Pass</b>

<b>Assay Name/Specification</b>	<b>Lot # 10078568</b>
<b>Protein Purity Assay (SDS-PAGE)</b> Mlul-HF is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	<b>Pass</b>
<b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in CutSmart <sup>™</sup> Buffer containing 1 µg of Lambda DNA and a minimum of 100 units of Mlul-HF incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	<b>Pass</b>
<b>Ligation and Recutting (Terminal Integrity)</b> After a 20-fold over-digestion of Lambda DNA with Mlul-HF, >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 Mlul-HF.	<b>Pass</b>
<b>Functional Test (15 minute Digest)</b> A 50 µl reaction in CutSmart <sup>™</sup> Buffer containing 1 µg of Lambda DNA and 1 µl of Mlul-HF incubated for 15 minutes at 37°C results in complete digestion as determined by agarose gel electrophoresis.	<b>Pass</b>

Assay Name/Specification	Lot # 10078568
<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 Mlul-HF incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</p>	<b>Pass</b>
<p><b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled pUC19 DNA and a minimum of 60 units of Mlul-HF incubated for 4 hours at 37°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	<b>Pass</b>

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

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06 Aug 2020



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