

New England Biolabs Certificate of Analysis

Product Name: *Esp3I - 1,500 units*
Catalog Number: *R0734L*
Concentration: *10,000 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: *10029674*
Expiration Date: *11/2020*
Storage Temperature: *-20°C*
Storage Conditions: *300 mM NaCl, 10 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, 500 µg/ml BSA, (pH 7.4 @ 25°C)*
Specification Version: *PS-R0734S/L v1.0*

Esp3I - 1,500 units Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0734LVIAL	Esp3I	10029307	Pass
B7204SVIAL	CutSmart® Buffer	10021119	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10021131	Pass

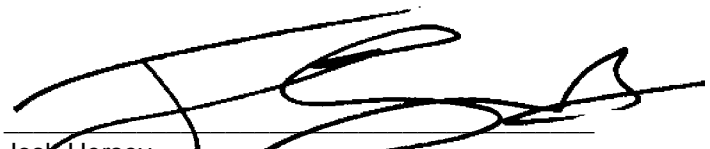
Assay Name/Specification	Lot # 10029674
<p>Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart® Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 100 units of Esp3I incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.</p>	Pass
<p>Functional Testing (15 minute Digest) A 50 µl reaction in CutSmart® Buffer containing 1 µg of Lambda DNA and 1 µl of Esp3I incubated for 15 minutes at 37°C results in complete digestion as determined by agarose gel electrophoresis.</p>	Pass
<p>Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of Lambda DNA with Esp3I, ≥95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, ~75% can be recut with Esp3I.</p>	Pass
<p>Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart® Buffer containing 1 µg of Lambda DNA and a minimum of 100 units of Esp3I incubated for 16 hours at 37°C results in a DNA pattern free of</p>	Pass

Assay Name/Specification	Lot # 10029674
detectable nuclease degradation as determined by agarose gel electrophoresis.	
<p>Protein Purity Assay (SDS-PAGE) Esp3I is \geq 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<p>RNase Activity (Extended Digestion) A 10 μl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 10 units of Esp3I is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p>	Pass

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



Tony Spear-Alfonso
Production Scientist
16 Oct 2018



Josh Hersey
Packaging Quality Control Inspector
15 Nov 2018