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New England Biolabs Certificate of Analysis

Product Name: Esp3I
Catalog Number: R0734S
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.

Packaging Lot Number: 10056198
Expiration Date: 10/2021
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

Esp3l Component List				
NEB Part Number	Component Description	Lot Number	Individual QC Result	
R0734SVIAL	Esp3l	10056197	Pass	
B7204SVIAL	CutSmart® Buffer	10046088	Pass	
B7024SVIAL	Gel Loading Dye, Purple (6X)	10053977	Pass	

Assay Name/Specification	Lot # 10056198
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,	Pass
~75% can be recut with Esp3I. Non-Specific DNase Activity (16 Hour)	Pass
A 50 µl reaction in CutSmart® Buffer containing 1 µg of Lambda DNA and a minimum of 100 units of Esp3l incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	
Protein Purity Assay (SDS-PAGE) Esp3l is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass
RNase Activity (Extended Digestion)	Pass
A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 10 units of Esp3l is incubated at 37°C. After incubation for 16	
hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis	



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Assay Name/Specification	Lot # 10056198
using fluorescent detection.	
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 Esp3l 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 CutSmart® Buffer containing 1 µg of Lambda DNA and 1 µl of Esp3l incubated for 15 minutes at 37°C results in complete digestion 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 06 Sep 2019 Minichiello

Packaging Quality Control Inspector

23 Oct 2019



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