

New England Biolabs Certificate of Analysis

Product Name: Spel-HF[®]
Catalog Number: R3133S
Concentration: 20,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of pXba-XbaI DNA in 1 hour at 37°C in a total reaction volume of 50 µl.
Packaging Lot Number: 10170601
Expiration Date: 09/2024
Storage Temperature: -20°C
Storage Conditions: 250 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 0.15% Triton[®] X-100, 200 µg/ml BSA
Specification Version: PS-R3133S/L v2.0

Spel-HF [®] Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R3133SVIAL	Spel-HF [®]	10164145	Pass
B7024AVIAL	Gel Loading Dye, Purple (6X)	10163561	Pass
B6004SVIAL	rCutSmart [™] Buffer	10163560	Pass

Assay Name/Specification	Lot # 10170601
Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart [®] Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 60 units of Spel-HF [®] incubated for 4 hours at 37°C results in <20% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
Blue-White Screening (Terminal Integrity) A sample of LITMUS28 vector linearized with a 10-fold excess of Spel-HF [®] , religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in <1% white colonies.	Pass
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 100 units of Spel-HF [®] incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart [®] Buffer containing 1 µg of pXba-XbaI digested DNA and a	Pass


Assay Name/Specification	Lot # 10170601
minimum of 100 units of Spel-HF [®] 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) Spel-HF [®] is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass
Ligation and Recutting (Terminal Integrity) After a 20-fold over-digestion of T7 DNA with Spel-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 Spel-HF [®] .	Pass

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

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YunJie Sun
Production Scientist
14 Sep 2022



Josh Hersey
Packaging Quality Control Inspector
07 Nov 2022