

New England Biolabs Certificate of Analysis

Product Name: *SpeI*
Catalog Number: *R0133S*
Concentration: *10,000 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: *10064601*
Expiration Date: *01/2022*
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-R0133S/L v2.0*

| Spel Component List | | | |
|---------------------|------------------------------|------------|----------------------|
| NEB Part Number | Component Description | Lot Number | Individual QC Result |
| R0133SVIAL | Spel | 10064604 | Pass |
| B7204SVIAL | CutSmart® Buffer | 10061304 | Pass |
| B7024SVIAL | Gel Loading Dye, Purple (6X) | 10055732 | Pass |


| Assay Name/Specification | Lot # 10064601 |
|---|----------------|
| <p>Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart® Buffer containing 1 µg of pXba-XbaI digested DNA and a minimum of 50 units of SpeI 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>Ligation and Recutting (Terminal Integrity) After a 20-fold over-digestion of T7 DNA with SpeI, >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 SpeI.</p> | Pass |
| <p>Protein Purity Assay (SDS-PAGE) SpeI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</p> | Pass |
| <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 50 units of SpeI incubated for 4</p> | Pass |

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|--|----------------|
| hours at 37°C releases <0.1% of the total radioactivity. | |
| <p>Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart® Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 50 units of SpeI incubated for 4 hours at 37°C results in <20% conversion to the nicked form as determined by agarose gel electrophoresis.</p> | Pass |
| <p>Blue-White Screening (Terminal Integrity) A sample of LITMUS28 vector linearized with a 10-fold excess of SpeI, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in <1% white colonies.</p> | Pass |

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



Anthony Francis
Production Scientist
23 Jan 2020



Jay Minichiello
Packaging Quality Control Inspector
29 Jan 2020