

New England Biolabs Certificate of Analysis

Product Name: *SpeI*
Catalog Number: *R0133M*
Concentration: *50,000 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: *10072139*
Expiration Date: *04/2022*
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-R0133T/M v2.0*

SpeI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0133M VIAL	SpeI	10072138	Pass
B7204S VIAL	CutSmart® Buffer	10071080	Pass
B7024S VIAL	Gel Loading Dye, Purple (6X)	10065747	Pass

Assay Name/Specification	Lot # 10072139
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.	Pass
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.	Pass
Protein Purity Assay (SDS-PAGE) SpeI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	Pass
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	Pass

Assay Name/Specification	Lot # 10072139
<1% white colonies.	
<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>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 hours at 37°C releases <0.1% of the total radioactivity.</p>	Pass

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



Penghua Zhang
Production Scientist
18 May 2020



Jay Minichiello
Packaging Quality Control Inspector
18 May 2020