

New England Biolabs Certificate of Analysis

Product Name: *KasI*
Catalog Number: *R0544S*
Concentration: *5,000 U/ml*
Unit Definition: *One unit is defined as the amount of enzyme required to digest 1 µg of pBR322 DNA in 1 hour at 37°C in a total reaction volume of 50 µl.*
Packaging Lot Number: *10168335*
Expiration Date: *08/2023*
Storage Temperature: *-80°C*
Storage Conditions: *500 mM KCl, 20 mM Tris-HCl (pH 7.0), 0.1 mM EDTA, 1mM MgCl₂, 50% Glycerol, 0.10% Triton X-100, 200 µg/ml BSA*
Specification Version: *PS-R0544S/L v3.0*

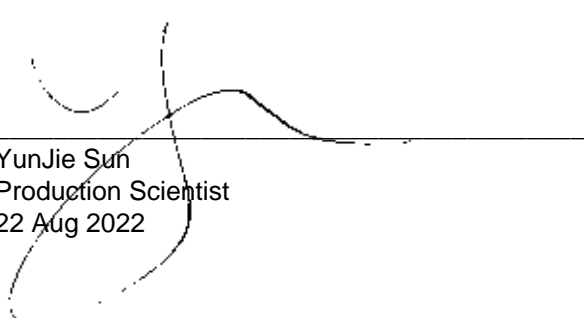
KasI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0544SVIAL	KasI	10162333	Pass
B6004SVIAL	rCutSmart™ Buffer	10156433	Pass

Assay Name/Specification	Lot # 10168335
Protein Purity Assay (SDS-PAGE) KasI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	Pass
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of pBR322 DNA and a minimum of 5 Units of KasI incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
Ligation and Recutting (Terminal Integrity) After a 20-fold over-digestion of pBR322 DNA with KasI, >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 KasI.	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 5 units of KasI incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
Blue-White Screening (Terminal Integrity)	Pass

Assay Name/Specification	Lot # 10168335
A sample of LITMUS38i vector linearized with a 10-fold excess of KasI, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in <1% white colonies.	

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

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YunJie Sun
Production Scientist
22 Aug 2022



Michael Tonello
Packaging Quality Control Inspector
01 Nov 2022