

## 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:** *10068139*  
**Expiration Date:** *01/2021*  
**Storage Temperature:** *-20°C*  
**Storage Conditions:** *500 mM KCl, 20 mM Tris-HCl (pH 7.0), 0.1 mM EDTA, 1mM MgCl<sub>2</sub>, 50% Glycerol, 0.10% Triton X-100, 200 µg/ml BSA*  
**Specification Version:** *PS-R0544S/L v2.0*

KasI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0544SVIAL	KasI	10064418	Pass
B7204SVIAL	CutSmart® Buffer	10071077	Pass

Assay Name/Specification	Lot # 10068139
<p><b>Ligation and Recutting (Terminal Integrity)</b>            After a 20-fold over-digestion of pBR322 DNA with KasI, &gt;95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, &gt;95% can be recut with KasI.</p>	Pass
<p><b>Non-Specific DNase Activity (16 Hour)</b>            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.</p>	Pass
<p><b>Blue-White Screening (Terminal Integrity)</b>            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 &lt;1% white colonies.</p>	Pass
<p><b>Exonuclease Activity (Radioactivity Release)</b>            A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [<sup>3</sup>H] E. coli DNA and a minimum of 5 units of KasI incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</p>	Pass


Assay Name/Specification	Lot # 10068139
<b>Protein Purity Assay (SDS-PAGE)</b> KasI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	<b>Pass</b>

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




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Penghua Zhang  
Production Scientist  
16 Apr 2020




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Jay Minichiello  
Packaging Quality Control Inspector  
16 Apr 2020