

## 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 rCutSmart Buffer in 1 hour at 37°C in a total reaction volume of 50 µl.*  
**Packaging Lot Number:** *10211291*  
**Expiration Date:** *10/2024*  
**Storage Temperature:** *-80°C*  
**Storage Conditions:** *10 mM Tris-HCl, 100 mM KCl, 1 mM DTT, 0.1 mM EDTA, 200 µg/ml rAlbumin, 50% Glycerol, (pH 7.4 @ 25°C)*  
**Specification Version:** *PS-R0544S/L v4.0*

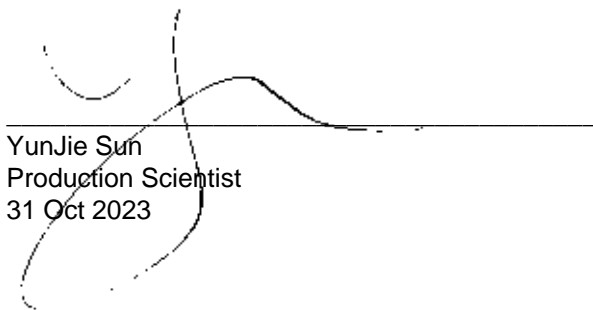
| KasI Component List |                       |            |                      |
|---------------------|-----------------------|------------|----------------------|
| NEB Part Number     | Component Description | Lot Number | Individual QC Result |
| R0544SVIAL          | KasI                  | 10211225   | Pass                 |
| B6004SVIAL          | rCutSmart™ Buffer     | 10207415   | Pass                 |

| Assay Name/Specification  | Lot # 10211291 |
|---|----------------|
| <b>Blue-White Screening (Terminal Integrity)</b><br>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.   | Pass           |
| <b>Exonuclease Activity (Radioactivity Release)</b><br>A 50 µl reaction in rCutSmart™ 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 <0.1% of the total radioactivity. | Pass           |
| <b>Ligation and Recutting (Terminal Integrity)</b><br>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           |
| <b>Non-Specific DNase Activity (16 Hour)</b><br>A 50 µl reaction in rCutSmart™ 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  | Pass           |

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|--|----------------|
| detectable nuclease degradation as determined by agarose gel electrophoresis.  |                |
| <b>Protein Purity Assay (SDS-PAGE)</b><br>KasI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.   | <b>Pass</b>    |
| <b>qPCR DNA Contamination (E. coli Genomic)</b><br>A minimum of 5 units of KasI is screened for the presence of E. coli genomic DNA using SYBR® Green qPCR with primers specific for the E. coli 16S rRNA locus. Results are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is ≤ 1 E. coli genome. | <b>Pass</b>    |

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

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31 Oct 2023



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