

## New England Biolabs Certificate of Analysis

*Product Name:* **KasI**  
*Catalog #:* **R0544S/L**  
*Concentration:* **5,000 units/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.**  
*Lot #:* **0451609**  
*Assay Date:* **09/2016**  
*Expiration Date:* **09/2017**  
*Storage Temp:* **-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**  
*Effective Date:* **04 Apr 2016**

Assay Name/Specification (minimum release criteria)	Lot #0451609
<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 <i>E. coli</i> strain expressing the LacZ beta fragment gene results in <1% white colonies.	<b>Pass</b>
<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] <i>E. coli</i> DNA and a minimum of 5 units of KasI incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	<b>Pass</b>
<b>Ligation and Recutting (Terminal Integrity)</b> - 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.	<b>Pass</b>
<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.	<b>Pass</b>
<b>Protein Purity Assay (SDS-PAGE)</b> - KasI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	<b>Pass</b>

\* The BSA in this product has been granted an EDQM "Certificate of Suitability" from the European Directorate for the Quality of Medicines (# R1-CEP-2003-204-Rev00) and has been granted a USDA Certificate for Export of Bovine Blood Plasma/Serum for Manufacture into Pharmaceutical Products.



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Authorized by  
Derek Robinson  
04 Apr 2016



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Inspected by  
Stephanie Cornelio  
28 Sep 2016

