NEW ENGLAND BioLabs® Inc.

240 County Road
Ipswich, MA 01938-2723

Tel 978-927-5054
Fax 978-921-1350

www.neb.com
info@neb.com

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 #:	*0451705*
Assay Date:	*05/2017*
Expiration Date:	*5/2018*
Storage Temp:	*-20°C*
Storage Conditions:	*500 mM KCl, 20 mM Tris-HCl (pH 7.0), 0.1 mM EDTA, 1mM $MgCl_2$, 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 #0451705**
Blue-White Screening (Terminal Integrity) - 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**
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**
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**
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**
Protein Purity Assay (SDS-PAGE) - KasI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	**Pass**

* *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.*

Authorized by
Derek Robinson
04 Apr 2016

Inspected by
Stephanie Cornelio
23 May 2017

nqa ISO 9001 Registered Quality Management
nqa ISO 14001 Registered Environmental Management
nqa ISO 13485 Registered Medical Devices