NEW ENGLAND BioLabs Inc.

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New England Biolabs
Certificate of Analysis

Product Name:	*Cac8I*
Catalog #:	*R0579S/L*
Concentration:	*5,000 units/ml*
Unit Definition:	*One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA in 1 hour at 37°C in a total reaction volume of 50 µl.*
Lot #:	*0261409*
Assay Date:	*09/2014*
Expiration Date:	*9/2016*
Storage Temp:	*-20 °C*
Storage Conditions:	*150 mM KCl , 10 mM Tris-HCl (7.4), 1 mM DTT , 0.1 mM EDTA , 50 % Glycerol , 0.10 % TritonX-100*
Specification Version:	*PS-R0579S/L v1.0*
Effective Date:	*16 May 2014*

Assay Name/Specification (minimum release criteria)	**Lot #0261409**
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 15 units of Cac8I incubated for 4 hours at 37°C releases <0.2% of the total radioactivity.	**Pass**
Ligation and Recutting (Terminal Integrity) - After a 5-fold over-digestion of Lambda DNA with Cac8I, ~75% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 25°C. Of these ligated fragments, >95% can be recut with Cac8I.	**Pass**
Non-Specific DNase Activity (16 Hour) - A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 50 Units of Cac8I incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	**Pass**

Authorized by
Derek Robinson
16 May 2014

Inspected by
Casey Madinger
05 Sep 2014

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