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## New England Biolabs Certificate of Analysis

Product Name:	SalI-HFTM
Catalog #:	R3138S/L
Concentration:	20,000 units/ml
Unit Definition:	One unit is defined as the amount of enzyme required to digest 1 $\mu$ g of Lambda DNA (HindIII digest) in 1 hour at 37°C in a total reaction volume of 50 $\mu$ l.
Lot #:	0051306
Assay Date:	06/2013
Expiration Date:	06/2015
Storage Temp:	-20 °C
Storage Conditions:	50 mM KCl, 10 mM Tris-HCl (pH 7.5), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 300 μg/ml BSA
Specification Version:	PS-R3138S/L v1.0
Effective Date:	01 May 2013

Assay Name/Specification (minimum release criteria)	Lot #0051306
<b>Blue-White Screening (Terminal Integrity)</b> - A sample of pUC19 vector linearized with a 10-fold excess of SalI-HF <sup>TM</sup> , religated and transformed into an <i>E. coli</i> strain expressing the LacZ beta fragment gene results in $<1\%$ white colonies.	Pass
<b>Endonuclease Activity (Nicking)</b> - A 50 $\mu$ l reaction in CutSmart <sup>TM</sup> Buffer containing 1 $\mu$ g of supercoiled PhiX174 DNA and a minimum of 20 Units of SalI-HF <sup>TM</sup> incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
<b>Exonuclease Activity (Radioactivity Release)</b> - A 50 $\mu$ l reaction in CutSmart <sup>TM</sup> Buffer containing 1 $\mu$ g of a mixture of single and double-stranded [ <sup>3</sup> H] <i>E. coli</i> DNA and a minimum of 200 units of SalI-HF <sup>TM</sup> incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
<b>Ligation and Recutting (Terminal Integrity)</b> - After a 50-fold over-digestion of Adenovirus-2 DNA with SalI-HF <sup>TM</sup> , >95% of the DNA fragments can be ligated with T4 DNA ligase in 4 hours at 25°C. Of these ligated fragments, >95% can be recut with SalI-HF <sup>TM</sup> .	Pass
Non-Specific DNase Activity (16 Hour) - A 50 µl reaction in CutSmart <sup>™</sup> Buffer containing 1 µg of pBR322 DNA and a minimum of 200 Units of SalI-HF <sup>™</sup> incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	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.

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Authorized by Derek Robinson 01 May 2013



Larty Shea Inspected by

Inspected by Cathy Shea 11 Oct 2013