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:	*NsiI-HF*
Catalog #:	*R3127S/L*
Concentration:	*20,000 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 #:	*0031601*
Assay Date:	*01/2016*
Expiration Date:	*01/2018*
Storage Temp:	*-20°C*
Storage Buffer:	*300 mM NaCl , 10 mM Tris-HCl (pH 7.4), 1 mM DTT , 0.1 mM EDTA , 50 % Glycerol , 500 µg/ml BSA*
Specification Version:	*PS-R3127S/L v1.0*
Effective Date:	*05 Oct 2015*

Assay Name/Specification (minimum release criteria)	**Lot #0031601**
Endonuclease Activity (Nicking) - A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled ΦX174 DNA and a minimum of 100 units of NsiI-HF incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	**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 100 units of NsiI-HF incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	**Pass**
Functional Test (15 minute Digest) - A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and 1 µl of NsiI-HF incubated for 15 minutes at 37°C results in complete digestion as determined by agarose gel electrophoresis.	**Pass**
Ligation and Recutting (Terminal Integrity) - After a 20-fold over-digestion of Lambda DNA with NsiI-HF, >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 NsiI-HF.	**Pass**
Non-Specific DNase Activity (16 Hour) - A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 100 units of NsiI-HF 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) - NsiI-HF is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	**Pass**

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

* *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
05 Oct 2015

Inspected by
Anthony Francis
12 Jan 2016