240 County Road Ipswich, MA 01938-2723 Tel 978-927-5054 Fax 978-921-1350 www.neb.com info@neb.com

New England Biolabs Product Specification

Product Name: NsiI-HF®

Catalog #: R3127S/L/V

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.

Shelf Life: 24 months
Storage Temp: -20°C

Storage Conditions: 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: 19 Dec 2014

Assay Name/Specification (minimum release criteria)

Endonuclease Activity (Nicking) - A 50 μ l reaction in CutSmartTM Buffer containing 1 μ g of supercoiled Φ X174 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.

Exonuclease Activity (Radioactivity Release) - A 50 μ l reaction in CutSmartTM Buffer containing 1 μ g 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.

Functional Test (15 minute Digest) - A 50 μl reaction in CutSmartTM 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.

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.

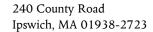
Non-Specific DNase Activity (16 Hour) - A 50 μ l reaction in CutSmartTM Buffer containing 1 μ g of Lambda DNA and a minimum of 100 units of NsiI-HF incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

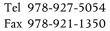
Protein Purity Assay (SDS-PAGE) - NsiI-HF is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.











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Date 19 Dec 2014

Derek Robinson Quality Approver





