NEW ENGLAND BioLabs Inc.
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# New England Biolabs
# Certificate of Analysis

| | |
|---|---|
| *Product Name:* | *NsiI* |
| *Catalog Number:* | *R0127S* |
| *Concentration:* | *10,000 U/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 50 µl of reaction buffer.* |
| *Packaging Lot Number:* | *10079180* |
| *Expiration Date:* | *02/2022* |
| *Storage Temperature:* | *-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-R0127S/L v1.0* |

| **NsiI Component List** | | | |
|---|---|---|---|
| **NEB Part Number** | **Component Description** | **Lot Number** | **Individual QC Result** |
| R0127SVIAL | NsiI | 10066693 | **Pass** |
| B7203SVIAL | NEBuffer™ 3.1 | 10077593 | **Pass** |

| **Assay Name/Specification** | **Lot # 10079180** |
|---|---|
| **Ligation and Recutting (Terminal Integrity)**<br>After a 20-fold over-digestion of Lambda DNA with NsiI, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16ºC. Of these ligated fragments, >95% can be recut with NsiI. | **Pass** |
| **Non-Specific DNase Activity (16 Hour)**<br>A 50 µl reaction in NEBuffer 3.1 containing 1 µg of Lambda DNA and a minimum of 50 Units of NsiI incubated for 16 hours at 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | **Pass** |
| **Protein Purity Assay (SDS-PAGE)**<br>NsiI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection. | **Pass** |
| **Endonuclease Activity (Nicking)**<br>A 50 µl reaction in NEBuffer 3.1 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 30 units of NsiI incubated for 4 hours at 37ºC results in <20% conversion to the nicked form as determined by agarose gel electrophoresis. | **Pass** |
| **Exonuclease Activity (Radioactivity Release)** | **Pass** |

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| Assay Name/Specification | Lot # 10079180 |
|---|---|
| A 50 µl reaction in NEBuffer 3.1 containing 1 µg of a mixture of single and double-stranded [ $^{3}$H] E. coli DNA and a minimum of 100 units of NsiI incubated for 4 hours at 37ºC releases <0.1% of the total radioactivity. | |

This product has been tested and shown to be in compliance with all specifications.

One or more products referenced in this document may be covered by a 3rd-party trademark. Please visit www.neb.com/trademarks for additional information.

Penghua Zhang
Production Scientist
14 Aug 2020

Michael Tonello
Packaging Quality Control Inspector
14 Aug 2020