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

| | |
|---|---|
| *Product Name:* | *Nt.BstNBI* |
| *Catalog Number:* | *R0607S* |
| *Concentration:* | *10,000 U/ml* |
| *Unit Definition:* | *One unit is defined as the amount of enzyme required to digest 1 µg T7 DNA in NEBuffer r3.1 in 1 hour at 55°C in a total reaction volume of 50 µl.* |
| *Packaging Lot Number:* | *10159563* |
| *Expiration Date:* | *08/2024* |
| *Storage Temperature:* | *-20°C* |
| *Storage Conditions:* | *10 mM Tris-HCl, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml rAlbumin (pH 7.4 @ 25°C)* |
| *Specification Version:* | *PS-R0607S/L v2.0* |

**Nt.BstNBI Component List**

| NEB Part Number | Component Description | Lot Number | Individual QC Result |
|---|---|---|---|
| R0607SVIAL | Nt.BstNBI | 10159526 | **Pass** |
| B6003SVIAL | NEBuffer™ r3.1 | 10146826 | **Pass** |

| Assay Name/Specification | Lot # 10159563 |
|---|---|
| **Exonuclease Activity (Radioactivity Release)**<br>A 50 µl reaction in NEBuffer™ r3.1 containing 1 µg of a mixture of single and double-stranded [ $^3$H] E. coli DNA and a minimum of 50 units of Nt.BstNBI incubated for 4 hours at 55°C releases <0.1% of the total radioactivity. | **Pass** |
| **Non-Specific DNase Activity (16 hour)**<br>A 50 µl reaction in NEBuffer™ r3.1 containing 1 µg of T7 DNA and a minimum of 10 units of Nt.BstNBI incubated for 16 hours at 55°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. NOTE: although no nuclease degradation is detected under these conditions, extended incubations and/or high concentrations of this enzyme may result in star activity. See the product FAQ for recommended reaction conditions for this enzyme. | **Pass** |
| **qPCR DNA Contamination (E. coli Genomic)**<br>A minimum of 10 units of Nt.BstNBI is screened for the presence of E. coli genomic DNA using SYBR® Green qPCR with primers specific for the E. coli 16S rRNA locus. Results are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is ≤ 1 E. coli | **Pass** |

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|---|---|
| genome. | |
| **Protein Purity Assay (SDS-PAGE)**<br>Nt.BstNBI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection. | **Pass** |
| **Ligation and Recutting (Terminal Integrity)**<br>After a 10-fold over-digestion of T7 DNA with Nt.BstNBI, >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 Nt.BstNBI. | **Pass** |

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
09 Sep 2022

Michael Tonello
Packaging Quality Control Inspector
09 Sep 2022