

New England Biolabs Certificate of Analysis

Product Name: *NaeI*
Catalog Number: *R0190S*
Concentration: *10,000 U/ml*
Unit Definition: *One unit is defined as the amount of enzyme required to digest 1 µg pXba DNA in 1 hour at 37°C in a total reaction volume of 50 µl.*
Packaging Lot Number: *10092185*
Expiration Date: *09/2022*
Storage Temperature: *-20°C*
Storage Conditions: *50 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml BSA*
Specification Version: *PS-R0190S/L v1.0*

| NaeI Component List | | | |
|---------------------|-----------------------|------------|----------------------|
| NEB Part Number | Component Description | Lot Number | Individual QC Result |
| R0190SVIAL | NaeI | 10082415 | Pass |
| B7204SVIAL | CutSmart® Buffer | 10091030 | Pass |

| Assay Name/Specification | Lot # 10092185 |
|---|----------------|
| Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of pXba DNA and a minimum of 100 Units of NaeI 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) NaeI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection. | Pass |
| Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 50 units of NaeI 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 50 units of NaeI incubated for 4 hours at 37°C releases <0.1% of the total radioactivity. | Pass |
| Ligation and Recutting (Terminal Integrity) | Pass |

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| After a 10-fold over-digestion of pXba DNA with NaeI, ~75% 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 NaeI. | |

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

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Production Scientist
22 Dec 2020



Michael Tonello
Packaging Quality Control Inspector
22 Dec 2020