

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: *10141650*
Expiration Date: *03/2024*
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	10141649	Pass
B6004SVIAL	rCutSmart™ Buffer	10138403	Pass

Assay Name/Specification	Lot # 10141650
Protein Purity Assay (SDS-PAGE) NaeI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	Pass
Ligation and Recutting (Terminal Integrity) 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.	Pass
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
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
Endonuclease Activity (Nicking)	Pass

Assay Name/Specification	Lot # 10141650
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.	

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

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Penghua Zhang
Production Scientist
30 Mar 2022



Michael Tonello
Packaging Quality Control Inspector
30 Mar 2022