

New England Biolabs Certificate of Analysis

Product Name: XbaI
Catalog Number: R0145S
Concentration: 20,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA (dam-/HindIII digest) in 1 hour at 37°C in a total reaction volume of 50 µl.
Packaging Lot Number: 10068459
Expiration Date: 09/2021
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-R0145S/L v1.0

XbaI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0145SVIAL	XbaI	10055053	Pass
B7204SVIAL	CutSmart® Buffer	10071077	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10065747	Pass

Assay Name/Specification	Lot # 10068459
Blue-White Screening (Terminal Integrity) A sample of pUC19 vector linearized with a 10-fold excess of XbaI, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in <1% white colonies.	Pass
Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 100 Units of XbaI 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 200 units of XbaI incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of Adenovirus-2 DNA with XbaI, >95% of the DNA	Pass

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fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, >95% can be recut with XbaI.	
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda HindIII dam- DNA and a minimum of 200 Units of XbaI 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) XbaI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	Pass

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



Penghua Zhang
Production Scientist
11 Apr 2020



Mary Conlon
Packaging Quality Control Inspector
11 Apr 2020