

New England Biolabs Certificate of Analysis

Product Name: *BstBI*
Catalog Number: *R0519S*
Concentration: *20,000 U/ml*
Unit Definition: *One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA in rCutSmart Buffer in 1 hour at 65°C in a total reaction volume of 50 µl.*
Packaging Lot Number: *10195584*
Expiration Date: *12/2024*
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-R0519S/L v2.0*

BstBI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0519SVIAL	BstBI	10171828	Pass
B6004SVIAL	rCutSmart™ Buffer	10189225	Pass

Assay Name/Specification	Lot # 10195584
Endonuclease Activity (Nicking) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of supercoiled pUC19 DNA and a minimum of 20 units of BstBI incubated for 4 hours at 65°C results in <20% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³ H] E. coli DNA and a minimum of 100 units of BstBI incubated for 4 hours at 65°C releases <0.1% of the total radioactivity.	Pass
Functional Testing (15 minute Digest) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of Lambda DNA and 1 µl of BstBI incubated for 15 minutes at 65°C results in complete digestion as determined by agarose gel electrophoresis.	Pass
Ligation and Recutting (Terminal Integrity) After a 20-fold over-digestion of Lambda DNA with BstBI, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments,	Pass


Assay Name/Specification	Lot # 10195584
<p>>95% can be recut with BstBI.</p> <p>Non-Specific DNase Activity (16 Hour) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 20 units of BstBI incubated for 16 hours at 65°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	<p>Pass</p>

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

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YunJie Sun
Production Scientist
08 Dec 2022



Michael Tonello
Packaging Quality Control Inspector
17 Jul 2023