

## New England Biolabs Certificate of Analysis

**Product Name:** BsmFI  
**Catalog Number:** R0572S  
**Concentration:** 2,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to digest 1 µg of pBR322 DNA in 1 hour at 65°C in a total reaction volume of 50 µl.  
**Packaging Lot Number:** 10132748  
**Expiration Date:** 08/2023  
**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-R0572S/L v1.0

BsmFI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0572SVIAL	BsmFI	10117378	Pass
B6004SVIAL	rCutSmart™ Buffer	10127377	Pass

Assay Name/Specification	Lot # 10132748
<p><b>Ligation and Recutting (Terminal Integrity)</b>            After a 5-fold over-digestion of pBR322 DNA with BsmFI, &gt;95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, &gt;95% can be recut with BsmFI.</p>	Pass
<p><b>Non-Specific DNase Activity (16 Hour)</b>            A 50 µl reaction in CutSmart™ Buffer containing 1 µg of pBR322 DNA and a minimum of 2 Units of BsmFI incubated for 16 hours at 65°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	Pass
<p><b>Exonuclease Activity (Radioactivity Release)</b>            A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [<sup>3</sup>H] E. coli DNA and a minimum of 20 units of BsmFI incubated for 4 hours at 65°C releases &lt;0.1% of the total radioactivity.</p>	Pass
<p><b>Endonuclease Activity (Nicking)</b>            A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled pUC19 DNA and a minimum of 10 Units of BsmFI incubated for 4 hours at 65°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	Pass

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

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14 Dec 2021



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