

## New England Biolabs Certificate of Analysis

**Product Name:** BsgI  
**Catalog Number:** R0559L  
**Concentration:** 5,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA in 1 hour at 37°C in a total volume of 50 µl.  
**Packaging Lot Number:** 10147629  
**Expiration Date:** 04/2024  
**Storage Temperature:** -20°C  
**Storage Conditions:** 300 mM NaCl, 10 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 0.32 mM S-adenosylmethionine (SAM), 50% Glycerol, 500 µg/ml BSA (pH 7.4 @ 25°C)  
**Specification Version:** PS-R0559S/L v2.0

BsgI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0559LVIAL	BsgI	10147628	Pass
B6004SVIAL	rCutSmart™ Buffer	10146828	Pass

Assay Name/Specification	Lot # 10147629
<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 50 units of BsgI incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
<b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 15 Units of BsgI incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
<b>Ligation and Recutting (Terminal Integrity)</b> After a 5-fold over-digestion of Lambda DNA with BsgI, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, ~75% can be recut with BsgI.	Pass

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

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