NEW ENGLAND BioLabs Inc.
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New England Biolabs
Certificate of Analysis

Product Name:	*BssSαI*
Catalog Number:	*R0680S*
Concentration:	*10,000 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 reaction volume of 50 µl.*
Lot Number:	*10026257*
Expiration Date:	*10/2020*
Storage Temperature:	*-20°C*
Storage Conditions:	*300 mM NaCl , 10 mM Tris-HCl (pH 7.4), 1 mM DTT , 0.1 mM EDTA , 50 % Glycerol , 500 µg/ml BSA*
Specification Version:	*PS-R0680S/L v1.0*

BssSαI Component List			
NEB Part Number	**Component Description**	**Lot Number**	**Individual QC Result**
R0680SVIAL	BssSαI	10026258	**Pass**
B7204SVIAL	CutSmart® Buffer	10021122	**Pass**

Assay Name/Specification	**Lot # 10026257**
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 100 units of BssSαI incubated for 4 hours at 37ºC releases <0.1% of the total radioactivity.	**Pass**
Functional Test (15 minute Digest) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and 1 µl of BssSαI incubated for 15 minutes at 37ºC 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 BssSαI, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16ºC. Of these ligated fragments, >95% can be recut with BssSαI.	**Pass**
Non-Specific DNase Activity (16 hour) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 10 units of BssSαI incubated for 16 hours at 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. NOTE:	**Pass**

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although no nuclease degradation is detected under these conditions, extended incubations and/or high concentrations of this enzyme may result in star activity. See the product FAQ for recommended reaction conditions for this enzyme.	
Protein Purity Assay (SDS-PAGE) BssSαI 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.

Stephanie Cornelio
Production Scientist
23 Oct 2018

Michael Tonello
Packaging Quality Control Inspector
13 Dec 2018