240 County Road
Ipswich, MA 01938-2723
Tel 978-927-5054
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New England Biolabs
Certificate of Analysis

Product Name:	*BccI*
Catalog Number:	*R0704L*
Concentration:	*10,000 U/ml*
Unit Definition:	*One unit is defined as the amount of enzyme required to digest 1 µg of pXba DNA in rCutSmart Buffer supplemented with 2 mM DTT in 1 hour at 37°C in a total reaction volume of 50 µl.*
Packaging Lot Number:	*10251917*
Expiration Date:	*06/2026*
Storage Temperature:	*-20°C*
Storage Conditions:	*50mM NaOAc, 500mM NaCl, 0.1mM EDTA, 0.1mM TCEP , 50% Glycerol, 200 ug/ml rAlbumin (pH 6.0 @ 25°C)*
Specification Version:	*PS-R0704S/L/V v3.0*

BccI Component List

NEB Part Number	Component Description	Lot Number	Individual QC Result
R0704LVIAL	BccI	10251932	**Pass**
B6004SVIAL	rCutSmart™ Buffer	10245416	**Pass**
B1222AVIAL	0.1M DTT	10242838	**Pass**

Assay Name/Specification	Lot # 10251917
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 10 units of BccI incubated for 4 hours at 37ºC releases <0.3% of the total radioactivity.	**Pass**
Ligation and Recutting (Terminal Integrity) After a 2-fold over-digestion of pXba DNA with BccI, ~50% 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 BccI.	**Pass**
Non-Specific DNase Activity (16 hour) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of pXba DNA and a minimum of 10 units of BccI incubated for 16 hours at 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. NOTE: 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.	**Pass**

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Assay Name/Specification	Lot # 10251917
Protein Purity Assay (SDS-PAGE) BccI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	**Pass**
qPCR DNA Contamination (E. coli Genomic) A minimum of 10 units of BccI is screened for the presence of E. coli genomic DNA using SYBR® Green qPCR with primers specific for the E. coli 16S rRNA locus. Results are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is ≤ 1 E. coli genome.	**Pass**

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

One or more products referenced in this document may be covered by a 3rd-party trademark. Please visit www.neb.com/trademarks for additional information.

Dongxian Yue
Production Scientist
28 May 2024

Michael Tonello
Packaging Quality Control Inspector
20 Aug 2024