

## New England Biolabs Certificate of Analysis

**Product Name:** *Bst DNA Polymerase, Full Length*  
**Catalog Number:** *M0328S*  
**Concentration:** *5,000 U/ml*  
**Unit Definition:** *One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid insoluble material in 30 minutes at 65°C.*  
**Packaging Lot Number:** *10162281*  
**Expiration Date:** *08/2024*  
**Storage Temperature:** *-20°C*  
**Storage Conditions:** *10 mM Tris-HCl, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 0.1 % Triton®X-100, 50 % Glycerol, (pH 7.1 @ 25°C)*  
**Specification Version:** *PS-M0328S/V v3.0*

Bst DNA Polymerase, Full Length Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0328SVIAL	Bst DNA Polymerase, Full Length	10160904	Pass
B9004SVIAL	ThermoPol® Reaction Buffer Pack	10153016	Pass

Assay Name/Specification	Lot # 10162281
<p><b>RNase Activity Assay</b>            A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 5 units of Bst DNA Polymerase, Full Length is incubated at 37°C. After incubation for 4 hours, the substrate RNA is assessed by gel electrophoresis using fluorescent detection and compared to the product's RNase QC Standard resulting in no additional non-specific nuclease degradation.</p>	Pass
<p><b>Phosphatase Activity (pNPP)</b>            A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl<sub>2</sub> containing 2.5 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 100 units Bst DNA Polymerase, Full Length incubated for 4 hours at 37°C yields &lt;0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.</p>	Pass
<p><b>Protein Purity Assay (SDS-PAGE)</b>            Bst DNA Polymerase, Full Length is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<p><b>qPCR DNA Contamination (E. coli Genomic)</b>            A minimum of 5 units of Bst DNA Polymerase, Full Length is screened for the presence</p>	Pass

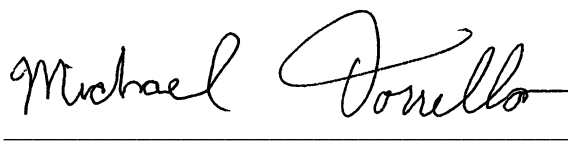
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<p>of E. coli genomic DNA using SYBR® Green qPCR with primers specific for the E. coli 16S rRNA locus. Results are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is <math>\leq 1</math> E. coli genome.</p>	
<p><b>Non-Specific DNase Activity (16 Hour)</b> A 50 <math>\mu</math>l reaction in NEBuffer 2 containing 1 <math>\mu</math>g of T3 or T7 DNA in addition to a reaction containing Lambda-HindIII DNA and a minimum of 5 units of Bst DNA Polymerase, Full Length incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	<b>Pass</b>
<p><b>Endonuclease Activity (Nicking)</b> A 50 <math>\mu</math>l reaction in ThermoPol® Reaction Buffer containing 1 <math>\mu</math>g of supercoiled PhiX174 DNA and a minimum of 50 units of Bst DNA Polymerase, Full Length incubated for 4 hours at 37°C and 65°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	<b>Pass</b>

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

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01 Sep 2022



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