240 County Road
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www.neb.com
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New England Biolabs
Certificate of Analysis

Product Name:	*Bst-XT WarmStart™ DNA Polymerase*
Catalog Number:	*M9204S*
Concentration:	*8,000 U/ml*
Unit Definition:	*One unit is defined at the amount of enzyme that will incorporate 25 nmol of dNTPs into acid insoluble material in 30 minutes at 65°C.*
Packaging Lot Number:	*10282945*
Expiration Date:	*04/2027*
Storage Temperature:	*-20°C*
Storage Conditions:	*20 mM Tris, 100 mM KCl, 0.5 mM TCEP, 0.1 mM EDTA, 1X Stabilizer, 50% Glycerol (pH 7.5 @ 25°C)*
Specification Version:	*PS-M9204S/L v1.0*

Bst-XT WarmStart™ DNA Polymerase Component List			
NEB Part Number	**Component Description**	**Lot Number**	**Individual QC Result**
M9204SVIAL	Bst-XT WarmStart™ DNA Polymerase	10282946	**Pass**
B9250SVIAL	10X Bst-XT Isothermal Amplification Buffer	10282958	**Pass**
B1003SVIAL	Magnesium Sulfate ($MgSO_4$) Solution	10270426	**Pass**

Assay Name/Specification	**Lot # 10282945**
Endonuclease Activity (Nicking) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 600 units of Bst -XT DNA Polymerase incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	**Pass**
Functional Testing (DNA-LAMP) A 25 µl LAMP reaction with 8 units of Bst -XT WarmStart™ DNA Polymerase in 1X Bst -XT Isothermal Amplification Buffer with 10 ng of genomic DNA and 1X LAMP fluorescent dye results in a threshold time of ≤ 15 minutes as determined by fluorescent detection.	**Pass**
Functional Testing (RT-LAMP) A 25 µl RT-LAMP reaction with 8 units of Bst -XT WarmStart™ DNA Polymerase in 1X Bst -XT Isothermal Amplification Buffer with 10 ng of genomic RNA and 1X LAMP fluorescent dye results in a threshold time of ≤ 15 minutes as determined by fluorescent detection.	**Pass**

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Assay Name/Specification	Lot # 10282945
Inhibition of Primer Extension (Hot Start) A 50 µl reaction in 1X Bst -XT Isothermal Amplification Buffer containing 6 mM MgSO4 and 1.4 mM dNTPs in the presence of 1.6 µM of a fluorescent internally labeled oligonucleotide and a minimum of 16 units of Bst -XT WarmStart™ DNA Polymerase incubated for 2 hours at 25°C yields <5% extension as determined by capillary electrophoresis.	**Pass**
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in NEBuffer 2 containing 1 µg of T3 or T7 DNA in addition to a reaction containing Lambda-HindIII DNA and a minimum of 8 units of Bst -XT WarmStart™ DNA Polymerase incubated for 16 hours at 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	**Pass**
Protein Purity (Microfluidic Electrophoresis) Bst -XT DNA Polymerase is ≥95% pure as determined by microfluidic electrophoresis.	**Pass**
RNase Activity (Extended Digestion) A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 8 units of Bst -XT WarmStart™ DNA Polymerase is incubated at 37°C. After incubation for 4 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	**Pass**
Single Stranded DNase Activity (FAM-Labeled Oligo) A 50 µl reaction in CutSmart® Buffer containing a 20 nM solution of a fluorescent internal labeled oligonucleotide and a minimum of 600 units of Bst -XT DNA Polymerase incubated for 16 hours at 37°C yields <5% degradation as determined by capillary electrophoresis.	**Pass**
qPCR DNA Contamination (E. coli Genomic) A minimum of 8 units of Bst -XT WarmStart™ DNA Polymerase 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.

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09 Apr 2025

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15 Apr 2025