Bst DNA Polymerase, Full Length

1-800-632-7799
info@neb.com
www.neb.com

M0328S 005130315031

M0328S

500 units **5,000 U/ml** **Lot: 0051303**
RECOMBINANT **Store at –20°C** **Exp: 3/15**

Description: *Bst* DNA Polymerase, Full Length is the full length polymerase from *Bacillus stearothermophilus*. It has 5´ → 3´ polymerase and double-strand specific 5´ → 3´ exonuclease activity, but lacks 3´ → 5´ exonuclease activity (2).

Source: An *E. coli* strain that carries the DNA Polymerase gene from *Bacillus stearothermophilus*. (H. Kong)

Supplied in: 50 mM KCl, 10 mM Tris-HCl (pH 7.5), 0.1 mM EDTA, 1 mM dithiothreitol, 0.1% Triton X-100 and 50% glycerol.

Reagents Supplied with Enzyme:
10X ThermoPol™ Reaction Buffer

Reaction Conditions:
1X ThermoPol Reaction Buffer.
Incubate at 65°C.

1X ThermoPol Reaction Buffer:
20 mM Tris-HCl
10 mM $(NH_4)_2SO_4$
10 mM KCl
2 mM $MgSO_4$
0.1% Triton® X-100
pH 8.8 @ 25°C

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.

Unit Assay Conditions: 50 mM KCl, 20 mM Tris-HCl (pH 8.8), 10 mM $MgCl_2$, 30 nM M13mp18 SS DNA, 70 nM M13 sequencing primer (–47) 24-mer, 200 µM dATP, 200 µM dCTP, 200 µM dGTP, 100 µM dTTP including [^{3}H]-dTTP, 100 µg/ml BSA and enzyme.

Specific Activity: 80,000 units/mg

Heat Inactivation: 80°C for 20 minutes.

Quality Control Assays

Endonuclease Activity: Incubation of a 50 µl reaction in ThermoPol Reaction Buffer containing a minimum of 50 units of *Bst* DNA Polymerase, Full Length with 1 µg of supercoiled ϕX174 DNA for 4 hours at either 37°C or 65°C results in < 10% conversion to the nicked form as determined by agarose gel electrophoresis.

Physical Purity: Purified to > 95% homogeneity as determined by SDS-PAGE analysis using Coomassie Blue detection.

Notes On Use: *Bst* DNA Polymerase, Full Length does not exhibit 3´→ 5´ exonuclease activity.

Reaction temperatures above 70°C are not recommended.

Cannot be used for thermal cycle sequencing or PCR.

References:

1. Mead, D.A. et al. (1991) *BioTechniques,* 11, 76–87.
2. Aliotta, J.M. et al. (1996) *Genetic Analysis,* 12, 185–195.

Companion Products Sold Separately:

Magnesium Sulfate ($MgSO_4$) Solution
#B1003S 6.0 ml

ThermoPol Reaction Buffer Pack
#B9004S 6.0 ml

ThermoPol II (Mg-free) Reaction Buffer Pack
#B9005S 6.0 ml

ThermoPol DF (Detergent-free) Reaction Buffer Pack
#B9013S 6.0 ml

Deoxynucleotide Solution Set
#N0446S 25 µmol each

Deoxynucleotide Solution Mix
#N0447S 8 µmol each
#N0447L 40 µmol each

CERTIFICATE OF ANALYSIS

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#N0447S 8 µmol each
#N0447L 40 µmol each

U.S. Patent No. 5,814,506.

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CERTIFICATE OF ANALYSIS