

Bst DNA Polymerase,

EXONUCLEASE MINUS

High specific activity and purity enzyme for DNA amplification and sequencing.

Applications

- Strand displacement amplification
- DNA sequencing through high GC regions (1,2)
- Rapid sequencing from nanogram amounts of DNA template (3)

Bst DNA Polymerase, Exonuclease Minus, is a 67 kDa *Bacillus stearothermophilus* DNA Polymerase protein (large fragment) which has 5'-3' polymerase activity and strand displacement activity but lacks 3'-5' exonuclease activity. It also has reverse transcription activity.

Lucigen's Bst DNA Polymerase, Exonuclease Minus, has more strand displacement activity than other suppliers (Figure 1). The properties of this enzyme can be applied to nucleic acid amplification methods, including isothermal amplification, whole genome amplification (WGA), multiple displacement amplification (MDA), and may be useful in next generation sequencing.

Free Sample prove it for yourself

Bst DNA Polymerase

▼ REQUEST

200 units Cat. No. 30027-0

Visit www.lucigen.com to request your free sample.

	Supplier E			Lucigen			Supplier N			
Bst	+	+	-	+	+	-	+	+	-	
Primer	+	-	-	+	-	-	+	-	-	MW

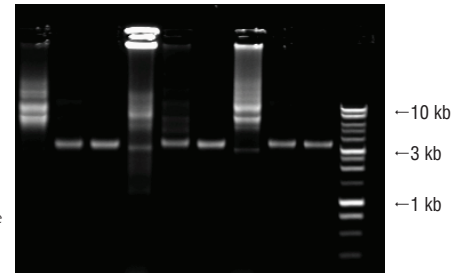


Figure 1. Lucigen Bst DNA Polymerase, Exonuclease Minus, possesses greater strand displacement activity compared to competitors. M13 single stranded DNA was incubated with or without 8 units of Bst DNA Polymerase(±Bst) in the reaction buffer supplied by the manufacturer in the presence or absence of replication primer ± primer for 30 minutes at 65°C. MW, 1 kb ladder.

Expressed in *E. coli*, this enzyme has optimal activity at 65°C, and is suitable for sequencing DNA with high GC content and secondary structures.

ORDER INFORMATION

Bst DNA Polymerase, Exonuclease Minus, is available in two concentrations, 8,000 U/ml and 50,000 U/ml, in a storage buffer of 10 mM Tris-HCl, pH 7.5, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 0.1% Triton X-100, and 50% Glycerol.

Also supplied is 10 X DNA Polymerase Buffer B, composed of 200 mM Tris-HCl pH 8.8, 100 mM (NH₄)₂SO₄, 100 mM KCl, 20 mM MgSO₄, and 1.0 % Triton X-100.

Bst DNA Polymerase, Exonuclease Minus	Size	Cat. No.	Price
8,000 U/ml	2,000 Units	30027-1	\$65.00
	10,000 Units (5 x 2,000 Units)	30027-2	\$260.00
50,000 U/ml	10,000 Units	30028-1	\$260.00

REFERENCES

1. Griffin, H. and Griffin, A. (1994) *PCR Technology*, 228-229.
2. McClary, J. et al. (1991) *J. DNA Sequencing and Mapping*, 1, 173-180.
3. Mead, D.A. et al. (1991) *Biotechniques*, 11, 76-87.

Please Note:

Some uses for this product may require licenses. Lucigen does not encourage or support the unauthorized or unlicensed use of patented nucleic acid amplification processes for isothermal amplification, whole genome amplification (WGA), multiple displacement amplification (MDA), and next generation sequencing. It is the sole responsibility of the buyer to ensure that use of the product does not infringe the patent rights of third parties. If the purchaser is not willing to accept these use limitations, Lucigen Corporation is willing to accept return of the product for a full refund.

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Bst DNA Polymerase, Exonuclease Minus

SPECIFICATIONS

Storage Buffer: 10 mM Tris-HCl, pH 7.5, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 0.1% Triton X-100, and 50% Glycerol.

Purity: >99% pure by SDS-PAGE. No detectable DNA contamination. 10 μ l of enzyme at 8 U/ μ l of the sample was tested for *E. coli* genomic DNA contamination by PCR amplifying with the *E. coli* 16S ribosomal primers.

Activity Determination: One unit catalyzes the incorporation of 10 nmol of dNTP into acid-insoluble material in 30 minutes at 65°C in 20 mM Tris-HCl pH 8.8, 10 mM $(\text{NH}_4)_2\text{SO}_4$, 10 mM KCl, 2 mM MgSO_4 , 0.1 % Triton X-100, 30 nM M13mp18 ssDNA, 70 nM M13 sequencing primer(-47) 24 mer 200 μ M dGTP, dATP, dTTP, dCTP (a mix of unlabeled and [^{33}P]dCTP), and 0.1 mg/ml BSA.

Absence of Endonuclease or Nicking Activity: Incubation of 8 U and 50 U of Bst DNA Polymerase, Exonuclease Minus, with 1 μ g of supercoiled pBR322 DNA for 16 hours at 37° and 65°C resulted in no detectable conversion to relaxed or linear forms by agarose gel electrophoresis.

Absence of Exonuclease Activity: Incubation of 8 U and 50 U of Bst DNA Polymerase, Exonuclease Minus, with 1 μ g of HindIII-cut lambda DNA for 16 hours at 37° and 65°C resulted in no smearing of bands on agarose gels. Single stranded and double stranded exonuclease activities were tested by incubating 10 μ l of enzyme at 8 U/ μ l with radiolabeled DNA substrate for one hour at 37° and 65°C, resulting in less than 0.1% release of TCA-soluble counts.

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