

Bst DNA Polymerase (Large Fragment, exo⁻)

(*Bacillus stearothermophilus*)

Cat. No.	size
E1078-01	100 units
E1078-02	500 units

Unit Definition: One unit is defined as the amount of enzyme required to incorporate 10 nmoles of total deoxyribonucleotide into acid-insoluble material in 30 minutes at 65°C.

Storage Conditions: Store at -20°C.

References:

1. Stenesh, J. and Roe, B.A. (1972) *Biochim. Biophys. Acta*, 272, 156-166.
2. Hugh, G. and Griffin, M. (1994) *PCR Technology*, p.p.228-229.
3. McClary, J. et al. (1991) *J. DNA Sequencing and Mapping*, p.p.173-180.

Large exonuclease free fragment of thermophilic Bst DNA Polymerase with strand displacement activity.

Description:

- Bst DNA Polymerase is a moderately thermostable enzyme from *Bacillus stearothermophilus*.
- Ultrapure, recombinant protein.
- The enzyme replicates DNA optimally at 65°C.
- Catalyzes the polymerization of nucleotides into duplex DNA in the 5'→3' direction in the presence of magnesium ions.
- Lacks the 5'→3' exonuclease activity, while retaining the polymerase activity (1).
- Broad activity range; can replace mesophilic polymerases as well as synthesize DNA at high temperatures. Thus it is suitable for amplification of difficult DNA templates, including repetitive sequences, GC-rich regions and problematic secondary structures (2, 3).
- Can be heat inactivated at temperatures above 80°C.
- Active over wide range of reaction buffer conditions and magnesium ions concentrations.
- Used in isothermal DNA sequencing at elevated temperatures.
- Ideal for DNA synthesis reactions requiring strand displacement.
- Exhibits thermophilic reverse transcriptase activity.
- Used in isothermal nucleic acids amplification.

Storage Buffer:

20 mM potassium phosphate (pH 6.8), 1 mM dithiothreitol and 50% (v/v) glycerol.

1 x Reaction Buffer:

50 mM Tris-HCl, (pH 8.9 at 20°C), 10 mM (NH₄)₂SO₄, 10 mM KCl, 2 mM MgSO₄, 0.1% Triton™X-100.

Quality Control:

All preparations are assayed for contaminating endonuclease, exonuclease, and single - and double-stranded DNase activities.