Product Manual

Product Name	Bst DNA Polymerase
Source	Recombinant expression in Escherichia coli
Catalog Number	CSB-DEM074
Physical Form	Liquid
Enzyme activity	8U/μL
Storage Conditions	-20±5°C
Storage Buffer	10 mM Tris-HCl, 100 mM KCl, 1 mM DTT, 0.1 mM EDTA, 0.5% Tween 20, 0.5% NP-40, 50% Glycerol
Activity definition	1 U refers to the amount of enzyme required to incorporate 10 nmol of dNTP into acid-insoluble precipitate under conditions of 65°C for 30 minutes.
Quality Control	No residual nucleases and exonucleases
Shelf Life	24 months

Product Description

Bst DNA Polymerase is derived from Thermophilic Geobacillus sp DNA Polymerase I, with its 5'-3' exonuclease activity removed through genetic engineering. This product exhibits strong 5'-3' DNA polymerase activity, strand displacement activity, and dUTP tolerance. It is suitable for contamination-free isothermal amplification reactions, such as LAMP, CPA, RCA, and various other isothermal amplification reactions. Heat inactivation at 85°C for 5 minutes.

Product Components

Label	Component	Specifications		
1	5×Bst buffer	0.6mL	3mL	6mL
2	Bst DNA Polymerase	100 U	500 U	1000 U

Operating instructions

Recommended Reaction System

Components	FinalConcentration/ Volume
ddH2O	Up to 25μL
5×Bst buffer	5μL
25mM Mg^{2+}	0-6mM

10 mM dNTPs	3.5μL
10 mM dUTPs (optional)	3.5μL
UDG（1U/μL） (optional)	1μL
10×Primers	2.5μL
Bst DNA Polymerase（8U/μL）	2U/μL
Template DNA	X μL

Note:

a. 10× Primers: Contains 16μM FIP/BIP, 2μM F3/B3, and 2-8μM LoopF/B each.

b. Template Concentration: Genomic DNA from animals and plants 0.1-1μg, E. coli genomic DNA 10-100ng, λDNA 0.1-10ng, plasmid DNA 0.1-10ng. If the template is undiluted cDNA, the volume used should not exceed 1/10 of the total qPCR reaction volume.

c. Polymerase Concentration: Enzyme amount can be adjusted between 0.25 - 1uL. Increasing the enzyme amount usually enhances amplification yield, but may reduce specificity.

d. Mg2+: The Mg2+ concentration in the reaction system can be adjusted within the range of 2.0-8.0 mM; 5× Bst buffer itself contains 2mM Mg2+.

Recommended PCR Reaction Program

Temperature	Time	Number of Cycles	Action
25-37℃	5-10min	1	Degradation of templates containing
65°C	30-60 min	1	Reaction
85°C	5 min	1	Inactivation

Note:

e. Degradation of templates containing U is an optional condition.