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LEADGENE BIOMEDICAL, INC.

Product Information & Manual

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Bst DNA Polymerase (Large Fragment)

Cat no. LDG0021RF

Product Overview

Package component

Specification	Item	Amount
1,600 U	Bst DNA Polymerase (Large Fragment)	1 vial (8 U/μL)
	10X Bst DNA Polymerase Reaction Buffer	1 vial (1 mL)
	100 mM $MgSO_4$	1 vial (0.4 mL)
8,000 U	Bst DNA Polymerase (Large Fragment)	1 vial (8 U/μL)
	10X Bst DNA Polymerase Reaction Buffer	1 vial (1 mL)
	100 mM $MgSO_4$	1 vial (0.4 mL)

Description

Bst DNA Polymerase (Large fragment) is an enzyme of Bacillus stearothermophilus DNA polymerase which can catalyze 5' → 3' polymerase activity but lacks 5' → 3' exonuclease activity. Bst DNA Polymerase offers strand displacement capabilities, making it ideal for isothermal amplification.

Source

Escherichia coli

Activity

One unit of Bst DNA Polymerase is defined as the amount of the enzyme incorporates 10 nmol of dNTP into acid-insoluble product in 30 minutes at 65°C.

Storage buffer

The enzyme is supplied in 10 mM Tris-HCl (pH7.5), 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 0.1% Triton® X-100 and 50% Glycerol.

10X Bst DNA Polymerase Reaction Buffer

200 mM Tris-HCl (pH 8.8), 100 mM $(NH_4)_2SO_4$, 100 mM KCl, 20 mM $MgSO_4$, and 1% Triton® X-100.

Storage and Stability

Stored at -20°C. Avoid repeated freeze/thaw cycles.

Procedure

LAMP reaction recipe:

1. Place all required reagents on ice and add each of them following the order suggested below.

Component	Amount	Final concentration
10X Bst DNA Polymerase Reaction Buffer	2.5 μL	1X
100 mM $MgSO_4$	1.5 μL	6 mM final concentration, total 8 mM
10 mM dNTP mix	3.5 μL	1.4 mM each
10X FIP/BIP primers	1 μL	1.6 μM
10X F3/B3 primers	1 μL	0.2 μM
10X LoopF/B primers	1 μL	0.8 μM
DNA template	X μL	10 copies or more
Nuclease-Free H2O	Y μL	-
Bst DNA Polymerase (Large Fraction) (8 U/μL)	1 μL	8 U/rxn
Total reaction volume	25 μL	-

2. Gently mix the reaction thoroughly to achieve uniform distribution.
3. Incubate at 65°C for 30-60 minutes.
4. $MgSO_4$ (2-10 mM), Bst DNA Polymerase (40-320

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U/mL) and temperature (50-65 °C) can be adjusted for optimal results.

5. Reaction preparations may be scaled up or down proportionately.

Important notes

It is not recommended to perform reaction above 70 °C. Bst DNA Polymerase cannot be used for thermal cycle sequencing.

Disclaimer

This product is for research use only and is not intended for diagnostic use.

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