

Product components

Components	Component number	Size-1	Size-2
		200 U	1000 U
Bsu DNA Polymerase (10000U/mL)	RM20547	20 μ L	100 μ L
10xBsu Reaction Buffer (Mg ²⁺ plus)	RM20810	1 mL	1 mL

Product Description

Bsu DNA Polymerase, Large Fragment retains the 5'→3' polymerase activity of DNA polymerase I but lacks the 5'→3' exonuclease activity. This large fragment also lacks 3'→5' exonuclease activity. Bsu DNA polymerase has strand displacement activity and is commonly used in recombinase polymerase amplification (RPA).

Source

E. coli strain expressing *Bsu* DNA Polymerase I gene lacking the N-terminal 5'→3' exonuclease domain, derived from *Bacillus subtilis*.

Applications

Strand displacement DNA synthesis; Random primer labeling; Second strand cDNA synthesis; dA-tailing

Definition of Activity Unit

One unit is defined as the amount of enzyme that incorporates 10 nmoles of dNTP into acidinsoluble form in 30 minutes at 37°C.

Molecular Weight 64 kD

Store -20°C

Inhibition and Inactivation

Inactivate at 75 °C for 20 min

1xBsu Reaction Buffer (Mg²⁺ plus)

50 mM NaCl, 10 mM Tris-HCl (pH7.5), 10 mM MgCl₂, 1 mM DTT

Storage Buffer

25 mM Tris-HCl, 50 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, pH7.4@25°C

Precautions

1. Due to the lack of 3'-5' exonuclease activity, Bsu DNA polymerase cannot excise 3' unpaired overhangs and is therefore not suitable for generating flush ends;
2. Bsu DNA polymerase retains 50% activity at 25°C, which is twice that of Klenow fragment (3'-5'exo-) at the same temperature;