

Klen Bst Polymerase Enzyme(8U/μl) with complete Buffer

Reference Guide

Catalog	Description
HL - KBstC- 100	800 Units
HL - KBstC- 200	1600 Units
HL - KBstC- 400	3200 Units

Store at -20°C
 PI/HL -KBstC- 00

Product Description

KlenBst Polymerase Enzyme is used for Loop-Mediated Isothermal Amplification (LAMP). It is a full-length (large fragment) 67 kDa polymerase from *Bacillus stearothermophilus*. It has 5' → 3' polymerase. The enzyme has a strand displacement activity and also lacks 5' → 3' exonuclease activity. KlenBst Polymerase is less sensitive to inhibitors compared to other Taq Polymerases, therefore can be used with partially purified samples. The enzyme works optimally at a uniform temperature at 65° C and can be heat-inactivated when exposed to temperatures above 80°C for 20 minutes. Ideal for high yields.

Source

Modified synthetic KlenBst Polymerase gene from *Bacillus stearothermophilus* expressed and purified in *E. coli* strain.

Reagents Supplied

- KlenBst Polymerase Enzyme (8U/μl)
- KlenBst Reaction complete Buffer 2X (1.4 ml)

Unit definition

One unit is the amount of enzyme required to catalyze the incorporation of 10nmol of dNTP into acid-insoluble material in 30 minutes at 65°C.

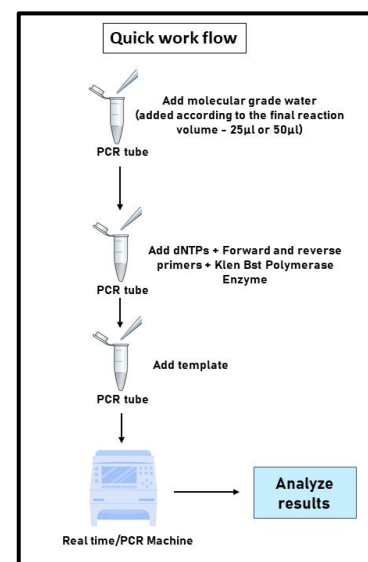
Storage

Recommended storage condition is -20°C

LAMP Assay procedure

Component	Volume (μL)
KlenBst Reaction complete Buffer (2X)	14
Primers	10 to 20μM (Depends on primer type)
Template DNA	Variable (user-defined)
KlenBst Polymerase Enzyme (8U/μL)	1.0 to 1.5μL
** Additive	(Optional)
Water	Variable (user-defined)
Total reaction volume	25.0

**** Additive is optional and can be used to enhance the results by better denaturation, especially for GC rich templates**



Reaction components

Additive: The reagent helps in better denaturation of GC-rich templates. Using reagents like DMSO, betaine, etc. can improve the LAMP outcome. However, this should be done with careful standardization

Template: Optimal DNA template concentration usually used in Isothermal amplification is up to 1 ng for both plasmid and phage DNA while 10-15ng for genomic DNA. The higher concentrations of template DNA generate non-specific LAMP products whereas lower concentrations affect the LAMP

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Optimal Assay Conditions

60 °C to 65°C for 40 to 60 minutes

Applications

- Isothermal DNA amplification by the method of loop-mediated isothermal amplification (LAMP)
- Whole-genome amplification (WGA)
- Ramification amplification (RAM)
- Multiple displacement amplification (MDA)
- Random-primed DNA labeling
- Labeling by fill-in 5'-overhangs of dsDNA
- Rapid Sequencing from nanogram amounts of DNA template
- Useful in next-generation sequencing
- Catalyzes the polymerization of nucleotides into duplex DNA in the 5'→3' direction in the presence of magnesium ions
- Whole-genome sequencing
- Sample identification in Forensics

***We recommend referring to our quick enzyme guide to choose the right enzyme for your needs**

Taq Polymerase Enzyme	QuickStart Taq Polymerase Enzyme	HotStart Taq Polymerase Enzyme	Klen BST Polymerase Enzyme
Used for endpoint PCR	Real-time PCR and Endpoint PCR	Real-time PCR	Real-time LAMP and LAMP
Works with temperature shifts	Works with temperature shifts	Works with temperature shifts	Ideal for isothermal PCRs 60°C – 65°C
No activation	30 seconds activation	15 minutes activation	No activation

Other PCR products from HuwelLifeSciences that you may be interested

S.No.	Product description	Catalogue No.
1.	Universal PCR Mix (2X)	HL - UPM - 100 - 1.25ml
2.	UltraFast Real Time PCR Mix 5X	HL - UFPCM - 100 - 500µl HL - UFPCM - 200 - 1ml
3.	UltraFast Real Time PCR Mix 5X with UDG	HL - UUFPCM - 100 - 500µl HL - UUFPCM - 200 - 1ml
4.	Taq Polymerase Enzyme (5U/µl)	HL - Taq - 50 - 250Units HL - Taq - 100 - 500Units HL - Taq - 200 - 1000Units
5.	HotStart Taq Polymerase Enzyme (5U/µl)	HL - HSTaq- 50- 250Units HL - HSTaq - 100 - 500Units HL - HSTaq - 200 - 1000Units
6.	QuickStart Taq Polymerase Enzyme (5U/µl)	HL - QSTaq - 50 - 250Units HL - QSTaq - 100 - 500Units HL - QSTaq- 200 - 1000Units

For further information on protocols and details, please contact our technical support:
info@huwelllifesciences.in



HLSS Manufacturing Pvt Ltd,
 Plot Nos; M 14, M 15, M 16,
 TSIC, Medical Devices Park,
 Sultanpur Village, Ameenpur Mandal,
 Sangareddy Dist, Telangana-502319,
www.huwelllifesciences.in, Email: info@huwelllifesciences.in