Bst III Probe LAMP Kit (DNA&RNA)

Please read the manual carefully before use.

Cat. No. LP313

Version. No. Version 1.0

Storage: at -20℃ for two years.

Description

This product contains *Bst* III Probe LAMP Enzymes Mix, 4×LAMP Reaction Mix II, and only prepare templates, primers and probes. Among them, *Bst* III Probe LAMP Enzymes Mix is an upgraded version of *Bst* II DNA polymerase, which can be used for LAMP reaction with DNA or RNA as template. It is not recommended to add reverse transcriptase when it is used for RT-LAMP reaction. 4×LAMP Reaction Mix II is an optimized reaction mastermix, which already contains $MgSO_4$, dNTPs and other components required for the reaction, and no additional addition is required.

This product is suitable for RT-LAMP reaction with RNA as template, or LAMP reaction with DNA as template, due to strong reverse transcription activity and amplification ability, which can detect RNA or DNA molecules as low as 1 copy within 30 minutes, and can be applied for probe method.

Features

- Isothermal Amplification (LAMP/RT-LAMP) capability
- Fast polymerization
- Strong strand-displacement capability

Application

- RNA/DNA isothermal amplification
- DNA sequencing with GC-rich regions
- Applicable for experiments requiring mesophilic strand-displacement

Kit Contents

Component	LP313-01 (100 rxns)	LP313-02 (200 rxns)
Bst III Probe LAMP Enzymes Mix	200 µl	400 µl
4×LAMP Reaction Mix II	0.65 ml	2×0.65 ml
6×DNA Loading Buffer	500 µl	1 ml
RNase-free Water	2×1 ml	4×1 ml

Recommended Reaction System based on Probe Method (taking 25 µl molecular beacon probe RT-LAMP reaction system as an example)

Component	Volume	Final Concentration
RNA Template	Variable	≥1 copy
Probe (15 µM)	1 µL	0.6 µM
FIP/BIP Primer	Variable	1.6 µM each
F3/B3 Primers	Variable	0.4 µM each
Loop F/B Primers	Variable	0.8 µM each
4×LAMP Reaction Mix II	6.25 µl	1×
Bst III Probe LAMP Enzymes Mix	2 µl	-
RNase-free Water	Variable	-
Total Volume	25 µl	-

Recommended Reaction Conditions

Incubate at 60℃ for 30~45 minutes, and set the read time to 1 minute. The specific reaction temperature is determined according to the Tm value of the primer. It is recommended to incubate at 85°C for 20 minutes after the reaction to inactivate the enzyme.

Operation Suggestions &Notes

1. Avoid RNase contamination during reaction system preparation;
2. *Bst* III DNA polymerase cannot be used for thermal cycle sequencing or PCR;
3. Reaction temperature range: 50℃～ 65℃;
4. Since *Bst* III DNA polymerase is also active at room temperature, please keep it at a low temperature during the preparation of the reaction mix (operate on ice);
5. Please use RNase-free Water or 0.1×TE Buffer to dilute the primers. The buffer concentration in the reaction system is high, and the primers diluted with 1×TE Buffer may affect the amplification;
6. After preparing the reaction system, it is recommended to add a drop of paraffin oil for liquid seal, which can effectively avoid false positives caused by aerosol contamination, and paraffin oil does not affect the fluorescence value reading results;
7. Try to separate the experimental environment and prepare the reaction reagents and templates in different areas. If agarose gel electrophoresis or other analysis method that require opening the LAMP reaction tube is needed after the reaction, please carry out in a separate operating environment to avoid contamination.

For research use only, not for clinical diagnosis

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