LAMP thermostatic amplification Bead specification

Item No. : PC2611

Specification: 100T

Storage: Store the kit at -20℃ for 2 years; Store at room temperature (25 ° C) for >6 months.

Product Information:

The product is a whole system freeze-dried microsphere product, containing Low Salt (Low Salt), Mg^{2+}, dNTP, Bst 4.0 DNA/RNA polymerase used for constant temperature amplification. Because LAMP reaction will produce a large amount of H^+, resulting in a decrease in the pH of the reaction system, therefore, under the condition of low buffer salt system, pH sensitive dyes can be used to achieve visual detection LAMP detection. The product contains a low concentration of Tris (pH8.8) buffer salt.

Example of use (using LAMP red-yellow color amplification as an example) :

1. Use red pH indicator dye to perform LAMP discoloration reaction. **(Note: there is no red PH indicator dye tube in this reagent, if necessary, please contact sales to order)**

2 Prepare the reaction system

Bst 4.0 LS Bead 1 pellet

10xRed pH Dye 2.5μL

10xLAMP Primer Mix 2.5μL

Template DNA/RNA X μL

ddH_2O to liquid total 25μL

3. Cover the tube and place at 65°C for 20~30min. The results of naked eye observation, yellow is positive, red is negative.

4. For the preparation of 10xLAMP Primer Mix, FIP/BIP is 16 μM, LoopF/B is 4~8μM, and F3/B3 is 2μM, respectively. Diluents of primers are all ddH2O (pH8.0-9.0), and systems containing Tris buffer salt cannot be used. Since this color-changing method is sensitive to pH, the primer becomes acidic after dissolution in most cases, so the final concentration of 1mM is added to the 10x primer NaOH restores the primer to a neutral pH (~8.5). Note that NaOH needs to be prepared fresh and can be prepared at a concentration of 50-100mM.

Points to note:

1. the red and yellow discoloration reaction depends on the change of pH in the reaction system to achieve, so the Tris salt, NaOH and other components in the template have a crucial impact on the reaction. In the detection of nucleic acid purified samples, it is recommended to use ddH_2O for elution.
2. Special note on DEPC water use: Since DEPC treated ddH_2O shows strong acidity, it will directly cause the lyophilized ball to turn yellow after dissolution. So DEPC treated H_2O must be adjusted by NaOH solution pH 8.0-9.0 before it can be used. We recommend direct use of 18.2ΩH_2O prepared by water cooler, which does not affect the amplification of RNA samples.
3. When testing the crude sample, the best crude sample is the swab sample. After soaking the swab sample by ddH_2O, the soaking solution can be used directly as the template for amplification without the nucleic acid purification step.

4, Bst 4.0LS freeze-dried ball is stable at room temperature and can be stored for a long time.