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Product information

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HMB Extraction-Free PCR Mastermix - Yeast & Bacteria

Catalog #: B690021
Size: 100 reactions
Storage: -20°C

Product Description:

This product is a PCR direct amplification kit specifically designed for fungal colonies, especially suitable for yeasts and other microorganisms. It adopts advanced direct amplification technology, which allows rapid and efficient amplification of target DNA fragments from colonies without cumbersome colony purification or DNA extraction steps.

The PCR products of this kit can be directly used for sequencing without the need to construct vectors into Escherichia coli, which greatly simplifies the traditional sequencing process and saves time and cost.

The kit is equipped with hot-start Taq DNA polymerase, which has excellent specificity and sensitivity. It can effectively inhibit non-specific amplification and ensure the accuracy of amplification results. Meanwhile, its good amplification capability enables satisfactory amplification results even with low-concentration templates.

This kit is widely used in scientific research and experimental work in fields such as mycology and microbiology. It is an ideal choice for applications such as fungal colony identification and gene function research, bringing convenience to your experiments.

Storage Method and Precautions:

- **Storage Conditions:** HyperMB YCL Buffer in the kit should be stored at 2-8°C. 2X HyperMB Taq PCR Master Mix Pro should be stored at -20°C, and repeated freezing and thawing should be avoided.
- **Validity Period:** See the product package for details.
- **Safety Precautions:** HyperMB YCL Buffer and 2X HyperMB Taq PCR Master Mix Pro contain irritating compounds. During operation, wear a lab coat and latex gloves to avoid contact with skin, eyes, and clothing, and prevent inhalation through the mouth or nose. In case of contact with skin or eyes, rinse immediately with clean water or normal saline; seek medical assistance if necessary.

Kit Components:

Components	
HyperMB YCL Buffer	3ml
2X HyperMB Taq PCR Master Mix Pro	2 x 1.25ml
Protocol	1

Standard Operating Procedures:

Before each use, check the status of HyperMB YCL Buffer. Precipitation may occur in HyperMB YCL Buffer at low temperatures; ensure thorough vortex mixing before use.

Typically, the 2X HyperMB Taq PCR Master Mix Pro in this kit can directly perform PCR amplification on monoclonal yeast colonies. The matching HyperMB YCL Buffer can increase the yield of PCR products and improve the specificity of PCR.

1. Sample Preparation

1. Add 10 µl of HyperMB YCL Buffer to a PCR tube.
2. Gently touch a well-isolated monoclonal yeast colony with the tip of a clean toothpick to obtain a very small amount of yeast.
3. Immerse the tip of the toothpick in the HyperMB YCL Buffer and stir to disperse the yeast.

4. Repeat this step for each yeast colony to be analyzed.
5. Incubate the PCR tube at 95°C for 5 min on a PCR instrument.

NOTE: Do not use the entire colony, as an excessive number of yeast cells will inhibit the reaction. If the solution becomes turbid after adding the colony, it indicates that an excessive amount of colony has been added.

2. PCR Reaction System Preparation

Prepare the reaction system in a new PCR tube according to the table below:

Component	50 µl System	20 µl System
Lysate (from Step 1)	1-2 µl	1 µl
Forward Primer (10 µM)	2.5 µl	1 µl
Reverse Primer (10 µM)	2.5 µl	1 µl
2X HyperMB Taq PCR Master Mix Pro	25 µl	10 µl
ddH2O	Up to 50 µl	Up to 20 µl

3. PCR Amplification Program

Place the PCR tube in a PCR instrument and run the following amplification program:

Temperature	Time	Number of Cycles
95°C	5 min	1 cycle
95°C	30 s	30-35 cycles
60°C	30 s	-
72°C	30 s/kb	-
72°C	10 min	1 cycle
12°C	∞	-

- The annealing temperature can be adjusted according to the Tm value of the primers.

Frequently Asked Questions (FAQs):

1. No Amplification Band or Weak Band

Possible Causes	Solutions
Improper storage or expired reagents.	Use new reagents.
Inappropriate template amount added.	The template amount should not exceed 1/10 of the reaction system; excessive template will inhibit PCR amplification.
Insufficient PCR cycles.	Increase the number of PCR cycles; 35-40 cycles are recommended.

2. Non-specific amplification

Possible Causes	Solutions
Too low PCR annealing temperature, or too high number of cycles, primer concentration, or template concentration.	Increase the PCR annealing temperature; reduce the number of PCR cycles, primer concentration, or template concentration.
PCR primer mismatch.	Redesign the PCR primers.
Excessive lysate added.	Increase the reaction system volume or reduce the amount of lysate used.