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Rapid Universal DNA Extraction&Detection Kit Instructions

Composition

Rapid Universal DNA Extraction&Detection Kit Cat.No.	50 Preps 3108050	200 Preps 3108200
Buffer B1	6 ml	24 ml
Buffer B2	6 ml	24 ml
2×PCR Mix	500 μl	1 ml×2
Grinding Rods	10	20

Storage

The reagent can be stored for more than 2 years at room temperature (0-30℃). For longer storage, it is recommended to keep at -20℃. (The product stored at -20℃ should be restored to room temperature before use).

Technical Support

R&D Department, Hangzhou Simgen Biotechnology Co., Ltd. E-mail: technical@simgen.cn, Tel: 400-0099-857.

Introduction

This kit contains all the reagents for rapid preparation of genomic DNA and PCR amplification, suitable for rapid extraction of genomic DNA from plant tissues, seeds, animal tissues, blood samples, yeast, and bacteria for subsequent PCR amplification and detection. The entire extraction process does not include the process of deproteinization or RNA digestion, and other secondary metabolites, does not require organic solvent extraction. It also does not require absolute ethanol precipitation, which is simple, fast, and stable and reliable in quality.

The 2×PCR Mix provided with this kit is an amplification-compatible PCR reagent that enables efficient and specific amplification without the need to completely remove impurities such as proteins. The reagent contains an enhancer and optimizer for the PCR reaction, as well as a stabilizer. It is fast and simple, with high sensitivity, strong specificity and good stability, which is especially suitable for the screening of high-throughput samples.

Equipment and Reagents to Be Supplied by User

1. 1.5 ml centrifuge tubes.
2. Pipettes and tips.
3. Disposable gloves and protective equipment and tissues.
4. microcentrifuge (s) (with rotor for 1.5 ml and 2 ml centrifuge tubes).
5. Vortexer.
6. Grinding Rods (Simgen. Cat. No. D-050) may be required.

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Protocol

Prior to the experiment, please refer to the optimal starting amount listed in the Table 1.

Table 1 Optimal starting amount for different samples.

Samples	Amount
Plant leaves	1-5 mg
Plant seeds	1-5 mg sample after seed coat removal
Animal tissues	1-5 mg
Bacteria	0.2-0.5 ml bacteria cultures
Yeast	0.2-0.5 ml bacteria cultures
Blood	20 µl

1. **Refer to Table 1: Take the appropriate amount of sample into a 1.5 ml centrifuge tube, add 100 µl Buffer B1 and ensure complete coverage of the sample.**
2. **Mash the sample with a grinding rod (Simgen. Cat. No. D-050).**

* If the DNA of blood cells is detected, it is not necessary to use a grinding rod to grind, vortex and shake for 30 sec.

* If the sample is a liquid sample such as bacteria or yeast, grind repeatedly with a grinding rod for 30 sec until the sample is mixed with Buffer B1.

* If the sample is not easy to crush such as plant seeds, skin tissue, connective tissue, etc., you can use a grinding rod to grind as much as possible until the solution is turbid and discolored (such as after grinding fresh leaves, the solution turns from clear to green, even if there are visible solids in the solution, which does not affect the results).

3. **Add 100 µl Buffer B2, vortex to mix well, centrifuge at 12000 rpm for 2 min.**
4. **Carefully transfer 100 µl supernatant into another clean 1.5 ml centrifuge tube as a template for later use.**
5. **PCR amplification.**

(1) The PCR reaction system is as follows:

Composition	Volume
2 ×PCR Mix	10.0 µl
Fowerd primer (10 µM)	0.5 µl
Reverse primer(10 µM)	0.5 µl
Template DNA	1.0 µl
ddH_2O	Fill up to 20 µl

After all the reagents have been added, mix thoroughly, spin down the reagents to the bottom of the tube.

(2) Refer to the reaction conditions

Step	Temperature(℃)	Time	Number Of Cycles
Initial Denaturation	94°C	3 min	1
Denaturation	94°C	30 sec	35
Annealing	※55°C	30 sec	
Extension	§ 72°C	1 min	
Final Extension	72°C	5 min	1

* Note: The actual reaction conditions vary depending on the structure of the template, primers, etc., so it is necessary to set the optimal reaction conditions according to the actual situation.

6. **After the reaction, take 5-10 µl PCR product for agarose gel electrophoresis.**