Pioneer Research Anahita Company
No.157
Danesh street
Technology Park Pardis
Tehran/ Iran

DATA SHEET
Versions: 01
Revision date: 29/11/2023

1. Identification

Product name: Plasmid extraction kit

Reactions: 50 rxns

Cat. No.: PRA- PLS

2. Description

To extract plasmid, it is essential to exclude bacterial DNA and RNA. Solution II is employed for this elimination process. Ensure precise incubation during this step. The Plasmid kit is specifically designed for the extraction and purification of plasmids from both Gram-positive and Gram-negative bacteria. It offers a fast and easy processing method with a high column binding capacity. All reagents required for the procedure are stable at room temperature for up to one year. For extracting and purifying plasmids from bacteria, follow the procedure outlined below: Culture bacteria to reach the Log phase, preferably Extract and purify the plasmid using the Plasmid kit, following the provided instructions.

3. Kit Contents

Component	Cat. no	Quantity
Solution I	PRA-SI	10 ml
Solution II	PRA-SII	15 ml
Solution III	PRA-SIII	20 ml
Solution IV	PRA-SIV	10 ml
Precipitation solution	PRA-PS	25 ml
Washing buffer I	PRA-WB	25 ml
DNase/RNase free water	PRA-DW	5 ml
High absorbance column tube	PRA-Column	50 pcs
Collection Tube	PRA-CT	100 pcs

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4. Storage specifications

The components of the plasmid extraction kit can be stored at -20°C for later use.

5. Applications

Molecular Biology Applications:

- Genetic Engineering for the production of recombinant proteins

- Construction of genomic libraries for DNA sequencing

6. Assay Procedure

Plasmid Extraction Protocol:
1. Prepare a high-density bacterial suspension (at least 3 × 10^9 CFU/ml) from fresh colonies or broth culture in distilled water into a 2 ml Micro-tube. Vortex the bacterial suspension for 5 s and centrifuge at 8000 × g for 2 min.
2. Discard the supernatant and suspend the pellet in 200 µl S I solution. Vortex at high speed and incubate at room temperature for 5 min.
3. Add 250 µl S II solution and mix gently. Incubate at room temperature for a maximum of 1 min. Attention: do not exceed the time over 1 min, as it may damage the plasmid DNA.
4. Add 350 µl of S III solution to the tube and mix the microtube contents by inverting (30 s).
5. Add 200 µl S IV buffer and mix by inverting, then Centrifuge the Micro-tube at 13000 × g for 5 min at room temperature.
6. Carefully transfer the supernatant to the new 2 ml microtube. Do not transfer the pellet.
7. Add 500 µl of precipitation buffer to the 2 ml microtube and mix by inverting.
8. Transfer the lysate to the 2 ml collection tube with a spin column tube and Centrifuge at 12000 × g for 1 min at room temperature. Discard the 2 ml microtube

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and transfer the spin column tube into the new 2 ml collection tube. If the lysate remains, transfer it to the column and centrifuge again.
9. Add 500 µl Washing buffer and centrifuge at 12000 × g for 1 min at room temperature.
10. Transfer the spin column tube to the DNase-free 1.5 ml microtube.
11. Add 50 µl DNase-free water and incubate in a water bath at 65°C.
12. Centrifuge the Microtube at 12000 × g for 2 min at room temperature. Discard the column tube; the pellet contains the DNA of the plasmid. Keep plasmid DNA at -20°C for later use.

7. Safety

The solutions used in the kit have oxidizing and acidic properties. Avoid direct contact with skin and eyes. In case of contact with the mentioned tissues, wash with plenty of water and seek medical attention at the nearest medical center.

8. Quality Certifications

The mentioned product has been approved for marketing in the Islamic Republic of Iran.

9. Further information

This product is developed, designed, and sold exclusively for research purposes. The product has not been tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals.

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10. Other Kits

Other RNA Extraction Kits and DNA:
All the following DNA extraction kits are available in all three formats: column, sedimentary, and magnet nanoparticles:
1. DNA extraction kits from blood and tissue by column
2. DNA extraction kits from gram-positive and negative bacteria
3. DNA extraction kit from mycobacterium
4. DNA extraction kit from Fungi
5. DNA extraction kit from virus
6. DNA extraction kit from HPV virus
7. DNA extraction kits from plant tissue

RNA Extraction Kits:

All the following RNA extraction kits are available in both column and sedimentary methods:
1. RNA extraction kits from blood and tissue
2. RNA extraction kits from gram-positive and negative bacteria
3. RNA extraction kit from mycobacterium
4. RNA extraction kit from Fungi
5. RNA extraction kit from the virus
6. RNA extraction kits from plant tissue

NOTE

All products have been produced by Karmania Pars Gene company in Iran.