Plant DNA/RNA Purification Kit

(Spin Columns)

Qualitative Assay for

Manual Extraction Systems

Instructions For Use

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Version 1. GE-004.03.23

REF GE-004

GE_004/50 – Plant DNA/RNA Purification Kit – 50 rxn

GE_004/250 – Plant DNA/RNA Purification Kit – 250 rxn

GE_004/500 – Plant DNA/RNA Purification Kit – 500 rxn

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Description of the Kit Components, Transportation and Storage

Table 1. Content of the Kit

Plant DNA/RNA Purification Kit		50 rxn	250 rxn	500 rxn	Transportation and Storage
Solution A	Pre-Lysis Buffer	46 ml	114 ml x 2	460 ml	Room temperature
Solution B	Lysis Buffer	26 ml	126 ml	260 ml	Room temperature
Solution C	Binding Buffer	40 ml	95 ml x 2	380 ml	Room temperature
Solution W1 (conc.)	Wash Buffer 1	8 ml	21 ml x 2	28 ml x 3	Room temperature
Solution W2 (conc.)	Wash Buffer 2	5 ml	14 ml x 2	18 ml x 3	Room temperature
Solution E	Elution Buffer	11 ml	51 ml	105 ml	Room temperature
G-Spin/Columns	Silica Spin Columns, with Collections	50	250	500	Room temperature
Collection Tubes	Collection Tubes (2 ml)	100	500	1000	Room temperature

Reagents Preparation

Solution W1

Wash Buffer 1 comes as a concentrate. Prior to initial use, combine the recommended quantity of ethanol, which must be at least 95% pure, as specified on the bottle and in Table 2. If the labels of Solution W1 indicate that ethanol has already been added by the manufacturer ☑ omit this step.

Table 2. Preparation of Solution Wash 1

No. Reactions	Solution W1	Ethanol ≥95%	Final Volume
50	8 ml	23 ml	31 ml
250	21 ml x 2	59 ml (In each bottle)	80 ml x 2 bottles
500	28 ml x 3	77 ml (In each bottle)	105 ml x 3 bottles

Solution W2

Wash Buffer 2 comes as a concentrate. Prior to initial use, combine the recommended quantity of ethanol, which must be at least 95% pure, as specified on the bottle and in Table 3. If the labels of Solution W2 indicate that ethanol has already been added by the manufacturer ☑ omit this step.

Table 3. Preparation of Solution Wash 2

No. Reactions	Solution W2	Ethanol ≥95%	Final Volume
50	5 ml	26 ml	31 ml
250	14 ml x 2	66 ml (In each bottle)	80 ml x 2 bottles
500	18 ml x 3	87 ml (In each bottle)	105 ml x 3 bottles

The List of Materials to be Supplied by the User

Table 4. Equipment and Reagents to be Supplied by the User

Equipment	Consumables
Thermoblock or thermomixer	Ethanol ≥95%
Centrifuge	Liquid Nitrogen
Mortal and a pestle	RNase-free 1.5 ml microcentrifuge tubes
Vortex	Benchtop cooler or ice box
Pipette 0.5 - 10 µl	0.5 - 10 µl pipette tips with filter
Pipette 10 - 100 µl	20 – 200 µl pipette tips with filter
Pipette 100 - 1000 µl	100 - 1000 µl pipette tips with filter

Instructions for Manual Purifications

Plant DNA/RNA Purification Kit (Spin Columns) Protocol

Note: Before starting the procedure, prepare the solutions and enzymes according to the solution preparation guide (Table 2-3). Solution A and Solution B may form precipitates upon storage. Warm it up to 60°C until the residues have fully dissolved. Preheat Solution E at 56°C before starting the procedure. We recommend using 10-50 mg of fresh or 10-20 mg of dried plant samples.

1. Add liquid nitrogen to a mortar and freeze the plant by placing it in the liquid nitrogen within the mortar. Grind the tissue thoroughly using a clean pestle. Add 900 µl of Solution A and homogenize. The procedure should be performed on ice. If this is not possible, then freeze the sample immediately after homogenization.

   Alternatively, plant tissue can be placed in a homogenization tube with 800 µl of Solution A, which can be homogenized using OxBeads zirconia or OxBeads steel in Bead Beating machine for 2-5 min;

2. Transfer the homogenized sample into a 1.5 ml microfuge tube and freeze the sample for 15 min at -20˚C;
3. Warm up to room temperature (RT), and centrifuge at 8 000 rpm for 1 min. Discard the supernatant;
4. Dissolve the pellet in 500 µl of Solution B by pipetting;
5. Incubate the sample for 15 min at 65 °C in a thermomixer at 1400 rpm. Alternatively, incubate in a thermoblock and vortex periodically at 5 min intervals.
6. Freeze the sample for 10 min at -20˚C;
7. Warm up to room temperature (RT), centrifuge at 13 000 rpm for 10 min at 4˚C;
8. Transfer 400 µl of supernatant into a new microfuge tube, add 750 µl volumes of Solution C, close the cap, and invert 30 times;
9. Spin down, transfer the lysate into a G-spin/column, and centrifuge at 8 000 rpm for 2 min. Discard the flow-through;
10. Repeat step 9 with the remaining lysate. Change the collection tube;
11. Wash the column with 600 µl of Solution W1, and centrifuge at 13 000 rpm for 1 min. Change the collection tube;
12. Wash the column with 600 µl of Solution W2, and centrifuge at 13 000 rpm for 1 min. Discard the flow-through;
13. Remove residual buffer by centrifuging at 13 000 rpm for 1 min. Discard the collection tube;
14. Transfer the column into a new 1.5 ml microfuge tube;
15. Add 50-200 µl of preheated (56˚C) Solution E to the G-spin/column, ensuring the membrane's entire surface is hydrated; Avoid touching the membrane with the pipette tip;
16. Incubate for 3 min at room temperature (RT);
17. Elute the RNA/DNA by centrifuging at 13 000 rpm for 1 min.

Disposal

Dispose of used kit reagents, human clinical samples, and sealed amplification plates as laboratory clinical waste according to local, state, and federal regulations.

Version History

Instruction for Use Version GE-004.03.23 EN V1, March 10, 2023.

Quality Control System

Quality management system TÜV SÜD-ISO 9001:2015. Each Plant DNA/RNA Purification Kit batch is tested against predetermined quality specifications to ensure consistent product quality.

Technical support

For technical support, please contact our dedicated Technical Support Team at:

TEL: +995 599 374 374, Email: support@oxgensolutions.com

Explanation of Symbols

LOT Batch code	Use by
REF Catalogue number	Store at
QTY Quantity	CE This product fulfills the requirement of the European Directive 98/79 EC
Manufactured by	IVD For in vitro diagnostic medical devices For in vitro diagnostic use