TGuide Smart Magnetic Plant DNA Kit

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TGuide Smart Magnetic Plant DNA Kit

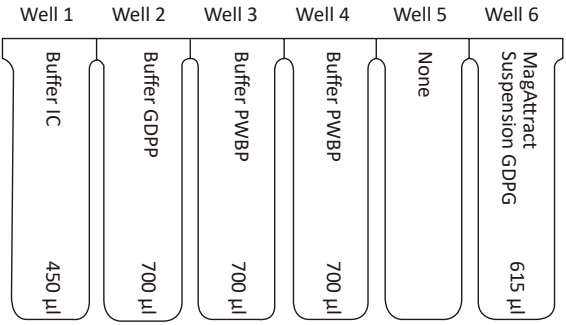
Cat. no. 4993548

Kit Contents

Contents		4993548 (48 preps)
4993541	Buffer GPS	30 ml
	Buffer GPA	10 ml
	Plant DNA Reagents	48
	Proteinase K	1 ml
	RNase A (100 mg/ml)	200 µl
	Buffer TB	15 ml
4993546	TGuide Smart Tip Comb	12 pcs

Note: 4993546 is shipped and packaged separately

Plant DNA reagent composition



Storage condition

All components of the kit can be stored in dry conditions at room temperature (15-30°C) for 12 months. If the solution precipitates, it can be preheated in a water bath at 37°C for 10 min before use to dissolve the precipitation, without affecting the effect.

Product

This product adopts unique magnetic beads and a unique buffer system to isolate and purify high-quality genomic DNA from various plant tissues. The uniquely embedded magnetic beads have a strong affinity for nucleic acid under certain conditions. When the conditions are changed, the magnetic beads can release the adsorbed nucleic acid, to rapidly separate and purify the nucleic acid.

It can be used to perfectly fit with TGuide S16 Nucleic Acid Extractor. Through adsorption, transfer and release of magnetic beads by the special magnetic bar, magnetic beads and nucleic acid can be transferred, to improve the degree of automation. The whole process is safe and convenient, and the extracted genomic DNA fragments are large, with high purity, stable and reliable quality.

The DNA purified with this kit is suitable for a range of routine procedures, including digestion, PCR, library construction, Southern hybridization, and other experiments.

Features

- **Simple and fast:** Ultra-pure genomic DNA can be obtained by running TGuide S16 for 60 minutes.
- **Widely applicable:** It is suitable for a variety of plant tissues, especially polysaccharide polyphenol plants.
- **Safe and non-toxic:** No toxic organic reagents such as phenol/chloroform.
- **High purity:** The obtained DNA has high purity and can be directly used for chip detection, high-throughput sequencing and other experiments.

Notes Be sure to read this note before using this kit.

1. Repeated freezing and thawing samples should be avoided, otherwise the extracted DNA fragments will be small and the extracted amount will decrease.
2. If there is precipitation in buffer GPS, it can be dissolved in 37°C water bath and used after shaking well.1) For samples with sufficient homogenization, the digestion time at 65°C can be cut.

Operational steps

1. Pre-packaged single reagent

1.1 Take out a pre-packaged single sample reagent strip and mix it upside down several times to re-suspend the magnetic beads; Gently shake the reagent and magnetic beads to concentrate at the bottom of the orifice plate. Before use, remove sealing film carefully to avoid the orifice plate from

vibrating and liquid spatter.

1.2 Add appropriate volume (60-100 µl) of eluting buffer TB to the 5th well of single sample reagent strip.

2. Sample processing

2.1 Take about 100 mg fresh tissue or 30 mg dry tissue to grind with liquid nitrogen or homogenizer.

2.2 Transfer the ground powders rapidly into centrifuge tubes pre-loaded with 600 µl Buffer GPS and 20 µl Proteinase K. After mix them upside down quickly, place samples in a water bath at 65°C for 15 min. During the water bath, reverse the centrifugal tubes to mix samples several times.

2.3 Add 4 µl RNase A (100 mg/ mL) to mix it thoroughly, and stand it at room temperature for 5 min.

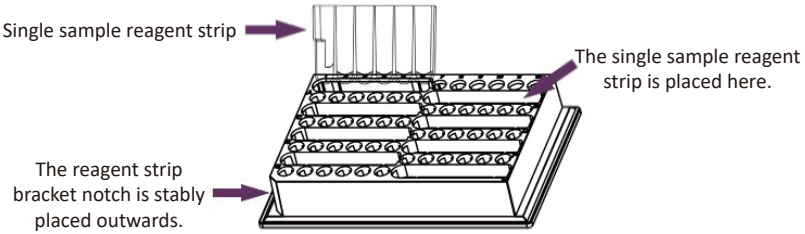
2.4 Add 150 µl Buffer GPA to fully mix it, followed by ice bath for 5 min and centrifugation at 12,000 RPM for 5 min.

3. Operation steps of TGuide S16 Nucleic Acid Extractor

3.1 Add 450 µl supernatant obtained after processing above sample to the 1st well of single sample reagent strip, and place the single sample reagent strip on the reagent tank bracket of TGuide S16 automatic nucleic acid extraction and purification instrument.

Note: Do not touch bottom impurities when drawing supernatant, with the max. volume of transferred supernatant below 500 µl.

3.2 Place the reagent tank bracket on the base of the 96-hole plate of the TGuide S16 Nucleic Acid Extractor. Insert the Tip Comb into the slot of the Tip Comb to ensure that they are well connected and firmed.



3.3 If you use the TGuide S16 Nucleic Acid Extractor, select the corresponding program DP607 file on the on-board screen, click the icon in the lower right corner of the screen, or click the "RUN" button at the bottom of the screen to start the experiment.

The extraction process of S16 provided for DP607 is shown in the following table:

Step	Hole site	Step name	Mix time (min)	Mix speed	Dry time (min)	Volume (μl)	Temp. (°C)	Segments	Every time(s)	Magneti-zation time(s)	Cycle	Magnet speed (mm/s)
1	1	Lysis	2	8	0	900	--	1	0	0	0	--
2	6	Collect beads	0.5	8	0	615	--	5	3	0	2	2.5
3	1	Bind	10	8	0	900	--	5	4	0	2	2.5
4	6	Wash 1	3	7	0	615	--	5	3	0	2	2.5
5	2	Wash 2	5	7	0	700	--	5	3	0	2	2.5
6	3	Wash 3	5	7	0	700	--	5	3	0	2	2.5
7	4	Wash 4	5	7	5	700	--	5	3	0	2	2.5
8	5	Elution	10	7	0	100	75	5	5	0	2	2.5
9	6	Discard	0.5	5	0	615	--	1	0	0	0	--

3.4 At the end of the automated extraction process, attract DNA out from the 5th well of the single sample reagent strip and store it under appropriate conditions.

Detection of DNA concentration and purity

The size of the obtained genomic DNA fragment is affected by the sample storage time and shear force during operation. The concentration and purity of the obtained DNA fragments can be detected by agarose gel electrophoresis and UV spectrophotometer.

Ideally, the DNA should be absorbed at most at OD_{260}, where an OD_{260} value of 1 corresponds to approximately 50 μg/ ml double stranded DNA and 40 μg/ ml single stranded DNA.

The OD_{260}/OD_{280} ratio should be 1.7-1.9. The value will be lower if the eluting buffer is not used and deionized water is used. This is because pH and existing ion can affect the light absorption value, but it doesn't indicate low purity.