CTAB Plant Genomic DNA Rapid Extraction Kit

Code No.： NG411S 100T

NG411M 200T

Contents	storage	100 T	200T
RNase A(10 mg/ml)	-20 ℃	500 μl	1 ml
Buffer P1	RT	40 ml	80 ml
Buffer P2	RT	13 ml	26 ml
Buffer P3	RT	25 ml	50 ml
		Add absolute alcohol before use	
Buffer WB	RT	25 ml	50 ml
		Add absolute alcohol before use	
Buffer EB	RT	15 ml	20 ml
Spin Columns AF/ Collection tubes	RT	100	200
Spin Columns AC/ Collection tubes	RT	100	200

This product can be stored at room temperature for 12 months without affecting its effectiveness.

Important Note：

All solutions should be clear. If the ambient temperature is low, the solutions may form precipitates and should not be used directly. In such cases, they be heated in a 65 ℃ water bath for a few minutes to restore clarity. To avoid volatilization, oxidation, and pH changes caused by prolonged exposure the reagents to air, the caps of each solution should be tightly closed immediately after use.

Introduction：

This product is a unique product independently developed by our company. Its principle is completely different from the isothiocyanate guanidine/phenol/chloroform extraction, and it can efficiently separate DNA from other plant polysaccharides, while also effectively removing polyphenols and other plant secondary metabolites. It is suitable for the vast majority of plant samples (roots stems, leaves, and fruits), and has been validated in nearly a hundred types of plants (including highly challenging conifers). This product can also be used for the DNA extraction of fungal samples.

A unique lysis buffer rapidly lyses cells, DNA is adjusted for binding conditions, it is selectively adsorbed onto silica matrix membrane in the spin column under high-chaotropic salt conditions. Then, through a series of rapid wash-and-centrifugation steps, impurities such as cellular and proteins are removed. Finally, low-salt water elutes the purified DNA from the silica matrix membrane.

Safety Information:

1. Lysis buffer P1 and P3 contain irritating and harmful compounds. Wear latex gloves during operation to avoid contact with skin, eyes and clothing. If contact with skin or eyes occurs, rinse with plenty of water or saline.
2. Simple and fast, single sample operation can generally be completed within 1 h, the simplest and fastest kit in the world.
3. Multiple rinsing steps to remove proteins result in higher DNA purity.
4. Pre-warm the required water bath to 65 ℃ before starting the experiment.

5. The amount of DNA extracted from plant tissue materials of different sources varies, with a typical yield of 3-25 μg from 100 mg of fresh tissue.

Operation Procedure:

Tip: Before the first use, please add absolute alcohol in the buffer WB and P3 and mark it.

1. prepare a 1.5 ml centrifuge tube, add 400 μl buffer P1 and 4 μl of RNase (10 mg/ml), and set aside at room temperature.
2. Grind fresh or -70 ℃ frozen materials (100 mg of fresh tissue or 20 mg of dry weight tissue (a slightly larger amount of sample can be taken to compensate for the loss adhering to mortar) into a fine powder in liquid nitrogen.
3. Transfer fine powder ((100 mg of fresh tissue or 20 mg of dry weight tissue) into a prepared tube of P1. Immediately vortex or mix by pip up and down to lyse the sample, then place back into a 65 ℃ water bath a short time (5-10 min), occasionally inverting 1-2 times in between to aid lysis.
   Note: This step can also be performed at room temperature by incubating for 10 minutes, but the DNA yield will be slightly reduced.
4. Add 130 μl buffer P2, mix thoroughly, ice bath 5 min. Centrifuge at 12,000 rpm for 5-10 min. Pipette the aqueous phase out into Spin Columns AF, centrifuge at 12,000 rpm for 2 minutes, and transfer the filtrate collected in the collection tube to a new 1.5 centrifuge tube.
5. Add 1.5 volume P3. Immediately pipette up and down to mix, do not centrifuge. Transfer the resulting solution and any possible precipitate into a adsorption column AC.
6. Centrifuge for 30-60 sec at 12,000 rpm. Discard the flow-through and set the Spin Column AC back into the Collection Tube.
7. Add 600 μl of Buffer WB to the Spin Column and centrifuge for 30 sec, 12,000 rpm. Discard the flow-through and place the Spin Column back in the same collection tube.
8. Repeat step 7.
9. Centrifuge for an additional 2 min, 12,000 rpm. Place the Spin Column into a clean 1.5 ml microcentrifuge tube.
10. Add 50-80 μl of Buffer EB or water to the center of the membrane, let the column stand for 1 min, and then centrifuge for 1 min at 12,000 rpm (The elution buffer can be preheated at 65-70 ℃ to increase the elution effect).
    Note: The volume of elution buffer should not be less than 30 μl, otherwise it may affect recovery efficiency. The pH value of elution buffer will have a great effect on eluting.
11. DNA can be stored at 2-8 ℃, and for long-term storage, it can be kept at -20 ℃