High-Q™ - Magnetic Plant Genomic DNA Purification Kit

Ordering info

TBK0227-S, 5 reactions (sample) TBK0227, 100 reactions TBK0228, 400 reactions

Description

High-Q™ Magnetic Plant Genomic DNA Purification Kit allows rapid and reliable isolation of high-quality genomic DNA from a wide variety of plant species. An optimized lysis buffer guarantees a good yield while the use of magnetic beads (Tiaris-Mag™) allows a good quality DNA, suitable for downstream applications. This kit is designed for using with individual tubes and magnetic rack.

Features

- Starting material up to 100 mg of fresh material and up to 50 mg of dried plant material.
- Typical yields are 2- 30 µg of DNA depending on the plant material used.
- High DNA purity.
- Easy and Fast protocol.

Applications

- Purification of DNA from plant tissue, including plant cells, leaves, seeds, fruits or roots.
- Purification of DNA plant using different starting plant materials: frozen, fresh or dried.
- DNA obtained is suitable for downstream molecular biology applications such as PCR, enzymatic digestion for cloning or Southern, genotyping, etc.

Quality Control

DNA purified is checked by: integrity (agarose gel electrophoresis), quantity and quality ($A_{260}/_{280}$= 1.9 ± 0.2; $A_{260}/_{230}$= 1.8 ± 0.2).

Material required (*not supplied*)

- Ethanol (CAS 64-17-5).

Kit Components

Components	TBK0227	TBK0228
Tiaris-Mag™ Beads	30 mL	65 mL
BPL1 Buffer	55 mL	125 mL
BPL2 Buffer	45 mL	110 mL
BPL3 Buffer	24 mL[a]	50 mL[b]
Washing Buffer	20 mL[c]	2 x 40 mL[d]
Elution Buffer	15 mL	30 mL
Proteinase K	2 x 25 mg [e]	4 x 30 mg [e]
Proteinase K Resuspension Buffer	2 x 1.5 mL	4 x 1.5 mL
RNase	10 mg [f]	3 x 20 mg [f]
RNase Resuspension Buffer	1.5 mL	3 x 2 mL

Order Info Kit Components: *Tiaris-Mag™ Beads (TBR0270) | BPL1 Buffer (TBB0530) | BPL2 Buffer (TBB0532) | BPL3 Buffer (TBB0533) | Washing Buffer (TBB0534) | Elution Buffer (TBB0510) | Proteinase K (TBZ0305) | Proteinase K Resuspension Buffer (TBB0546) | RNase (TBZ0318) | RNase Resuspension Buffer (TBB0309).*

Do not freeze Tiaris Mag™ Magnetic Beads!

Components for samples are ready to use!

Before its use:

[a] Add 36 mL absolute ethanol and mix well.

[b] Add 75 mL absolute ethanol and mix well.

[c] Add 80 mL absolute ethanol and mix well

[d] Add 160 mL absolute ethanol and mix well.

[e] Add Prot K Resuspension Buffer to obtain 20 mg/mL solution and mix well.

[f] Add RNase Resuspension Buffer to obtain 10 mg/mL solution and mix well.

Storage

Store Tiaris-Mag™ Beads at 4 °C and the rest of the kit at 25°C. Proteinase K solution and RNase solution can be stored for several days at 2–8 °C, although for longer-term storage, it may be stored at –20 °C.

PROTOCOL

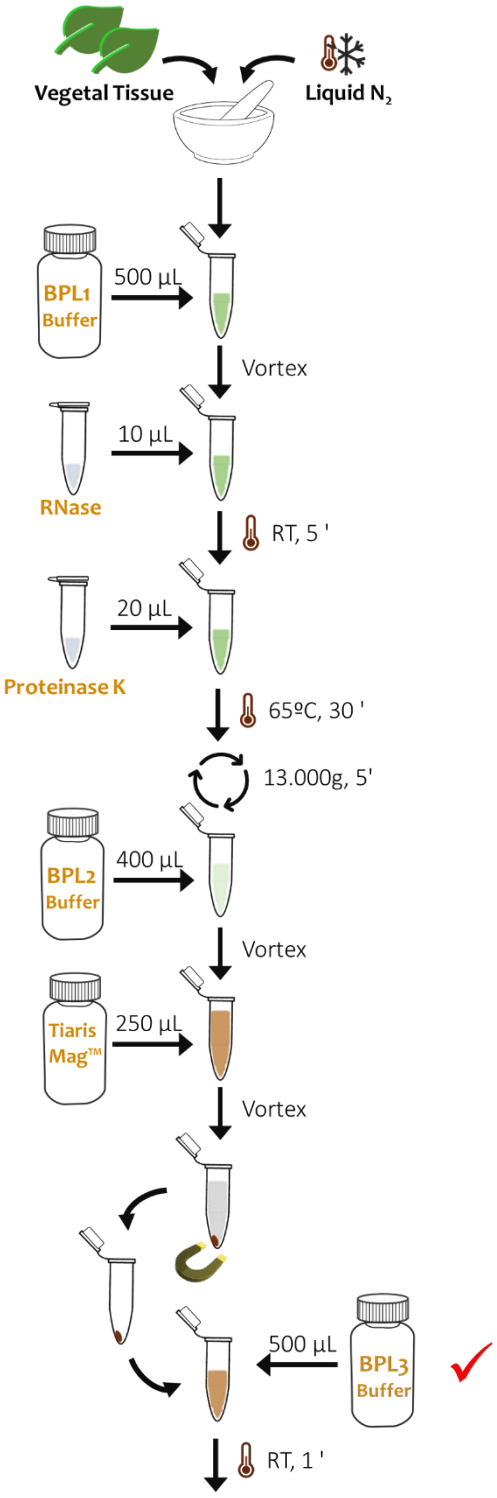
1. Grind up to 100 mg of fresh plant material or 30-35 mg of dry plant sample in liquid nitrogen using a mortar and a pestle. With a freeze spatula, collect the powder into a 1.5 mL tube. Homogenization can also be performed using commercially available equipment.
2. Add **500 µL BPL1 Buffer**. Vortex briefly.
3. Add **20 µL RNase (10 mg/ mL)** and mix well**.** Incubate 5 minutes at room temperature.
4. Add **20 µL Proteinase K (20 mg/ mL)**. Mix well and incubate at 65°C, 30 minutes. Mix 2-3 times by inversion during incubation.
5. Centrifuge at 13,000 g for 5 minutes. Transfer 400 µL supernatant to a fresh tube.
6. Add **400 µL BPL2 Buffer** and mix well.
7. Shake **Tiaris-Mag™ Beads** bottle well or place it on a vortex shortly. Add **250 µL Tiaris-Mag™ Beads** and homogenize well.

   Beads must be distributed homogenously for a high consistency.
8. Incubate 5 minutes at room temperature with gentle shaking.
9. Place on a magnetic separation device for 1 minute (or until the magnetic beads clear from solution). To eliminate beads buffer, aspirate and discard the cleared supernatant using a pipette.

   Do not disturb the attracted beads while aspirating the supernatant. Angle the pipette tip away from the bead pellet to avoid contact.
10. Separate the tubes from the magnetic separator and add **500 µL BPL3 Buffer** and mix well by inversion.

    Check isopropanol has been added to BPL3 Buffer (✔).
11. Incubate at room temperature for 1 minute.
12. Place the tube on a magnetic separator at least 1 minute. When the supernatant is clear, discard the supernatant using a pipette.
13. Remove the plate from the magnetic separator and add **700 µL Washing Buffer**. Resuspend by vortex until the beads are resuspended completely.

    Check absolute ethanol has been added to Washing Buffer (✔).



14. Place the samples on a magnetic separator for 1 minute (or until the magnetic beads clear from solution) and discard the supernatant using a pipette.
15. Repeat steps 13-14 one more time.
16. Dry the beads to eliminate residual ethanol by incubate the tubes without caps for 5 minutes in a laminar flow cabinet.
17. Add **100 µL Elution Buffer** prewarmed at 65°C and resuspend the beads by repeated pipetting up and down.
18. Incubate at room temperature for 2 minutes.
19. Place on a magnetic separator at least 2 minute or until the supernatant is clear. Transfer the supernatant containing the eluted DNA to a fresh tube or clean 96-well microplate. Do not disturb the Tiaris-Mag™ Beads.
20. Check DNA quantity and quality by spectrophotometry and agarose electrophoresis.
21. Store DNA at -20°C.