

Quick-Start Protocol

DNeasy[®] PowerPlant[®] Pro Kit

All components of the DNeasy PowerPlant Pro Kit can be stored at room temperature (15–25°C) until the expiry date printed on the box label.

Further information

- *DNeasy[®] PowerPlant[®] Pro Kit*. www.qiagen.com/HB-2262
- Safety Data Sheets: www.qiagen.com/safety
- Technical assistance: support.qiagen.com

Notes before starting

- If Solution SL contains precipitates, heat at 37 – 55°C to dissolve precipitates.
1. Add up to 50 mg of fresh plant tissue and 450 µl of Bead Solution to a 2 ml PowerBead Tube, Metal 2.38 mm (provided).
Note: We recommended the tissue be cut into small pieces before loading into the bead tube. For tough plants or seeds, pre-grind the material with a mortar and pestle.
Note: If sample is high in phenolics and you are using the Phenolic Separation Solution, reduce Bead Solution to 410 µl and add 40 µl of the Phenolic Separation Solution.
 2. Add 50 µl of Solution SL and 3 µl of RNase A Solution and vortex briefly to mix.
 3. Homogenize using one of the following methods:
 - A. **Vortex:**
Secure PowerBead Tubes horizontally to a Vortex Adapter (cat. no. 13000-V1-24) or on a flat-bed vortex pad with tape. Vortex at maximum speed for 10 min.

Note: Most leaf tissues are soft and can be processed for DNA isolation by using a Vortex Adapter. However, plant tissues such as roots, wood, and plant seeds require pre-grinding with a mortar and pestle before placing on the vortex.

B. PowerLyzer® 24 Homogenizer:

1. Properly identify each PowerBead Tube on both the cap and on the side.

Note: Due to the high energies of the PowerLyzer 24 Homogenizer, marring of the cap tops is possible. Therefore, we recommend you mark the sides of the PowerBead Tubes as well as the caps to ensure proper sample identification.

2. Place the PowerBead Tubes into the tube holder of the PowerLyzer 24 Homogenizer. The PowerBead Tubes must be balanced properly. Homogenize the tissue for **1 cycle** at the appropriate speed (see Table 1 below) depending on sample type for **2 min**.

Table 1. Sample types and appropriate PowerLyzer 24 Homogenizer speeds

Plant tissue type	Speed (RPM)
Soft leaf tissue	2000
Fibrous leaf tissue	2200
Stems	2200
Roots	2500
Pine needles	2600
Seeds	2800

Note: Exceeding these speed limits may result in tube breakage or leaking.

4. Centrifuge PowerBead Tubes at 13,000 x *g* for 2 min. Transfer the supernatant to a clean 2 ml Collection Tube (provided).
5. Add 175 µl of Solution IR. Vortex for 5 s and then incubate at 2 – 8°C for 5 min.

Note: For problematic samples, you can add up to 250 µl of Solution IR at this step.

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6. Centrifuge at $13,000 \times g$ for 2 min. Avoiding the pellet, transfer up to 600 μl of supernatant to a clean 2 ml Collection Tube (provided).
 7. Add 600 μl of Solution PB and 600 μl of ethanol (provided). Vortex for 5 s.
 8. Load approximately 600 μl of lysate onto an MB Spin Column. Centrifuge at $10,000 \times g$ for 30 s. Discard the flow-through and repeat until all the lysate has been passed through the MB Spin Column. Discard the flow-through and place the MB Spin Column back into the Collection Tube.
 9. Add 500 μl of Solution CB to the MB Spin Column. Centrifuge at $10,000 \times g$ for 30 s. Discard the flow-through and place the Spin Filter back into the same Collection Tube.
 10. Add 500 μl of ethanol (provided) to the MB Spin Column. Centrifuge at $10,000 \times g$ for 30 s. Discard flow-through and place the Spin Filter back into the same Collection Tube.
 11. Centrifuge at up to $16,000 \times g$ for 2 min. Carefully place the MB Spin Column into a new 2 ml Collection Tube (provided). Avoid splashing ethanol on the MB Spin Column.
 12. Add 50 –100 μl of Solution EB to the center of the white filter membrane and incubate for 2 min at room temperature.
 13. Centrifuge at $10,000 \times g$ for 30 s. For maximum elution efficiency, reload the flow-through on to the center of the white filter membrane. Centrifuge 30 s at $10,000 \times g$.
 14. Discard the MB Spin Column. The DNA is now ready for downstream applications.
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Revision History

Revision no.	Description of change
R3 12/2018	Updated the introductory paragraph by removing storage instructions of RNase A. Added URL link to DNeasy® PowerPlant® Pro Kit Handbook. Layout updates.



Scan QR code for handbook.

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