Extraction of Genomic DNA from *Arabidopsis* Leaves (Can be Used for Other Tissues as Well)

Yongxian Lu*

Carnegie Institution for Science, Stanford University, Stanford, USA
*For correspondence: yxlu@stanford.edu

[Abstract] This is a simple protocol for isolating genomic DNA from fresh plant tissues. DNA from this experiment can be used for all kinds of genetics studies, including genotyping and mapping. This protocol uses Edward's extraction buffer to isolate DNA.

Materials and Reagents

1. Ethanol (EtOH)
2. Isopropanol
3. NaCl
4. EDTA
5. SDS
6. Tris (pH 7.5)
7. Edward buffer (see Recipes)

Equipment

1. Ceramic mortar and pestles
2. Centrifuges (Eppendorf)
3. Vortex (VWR International)

Procedure

1. Add 400 µl Edward extraction buffer to a 1.5 µl tube.
2. Take 2-3 small leaves or 1 big leaf, grind with pestle (2-3 weeks old).
3. Vortex 5 sec, set at room temperature until all preps are ready.
4. Spin at 16,000 rpm for 2 min.
5. Transfer 300 µl of suspension to a fresh tube.
6. Add 300 µl of isopropanol at room temperature for 2 min.
7. Spin 5 min, wash pellet with 70% EtOH, and dry at room temperature.

8. Resuspend in 100 µl H_2O and store at -20 °C.
9. Use 2 - 4 µl for PCR reaction to validate the presence of target DNA.

Recipes

1. Edward buffer
   200 mM Tris (pH 7.5)
   250 mM NaCl
   25 mM EDTA
   0.5% SDS

References

1. Lu, Y., Chanroj, S., Zulkifli, L., Johnson, M. A., Uozumi, N., Cheung, A. and Sze, H. (2011). Pollen tubes lacking a pair of K^+ transporters fail to target ovules in *Arabidopsis*. *Plant Cell* 23(1): 81-93.

