

# Rapid DNA Extraction from Plant Tissues for Polymerase Chain Reaction

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In these years, biotechnology is growth faster and transgenic crops were commercialized. Most of the developed countries established evaluation and management system for GMOs, How to detect GMOs rapidly and economy is a key point in biosafety issues. At the moment, polymer chain reaction (PCR) is the major technique of GMOs detection but the DNA extraction spend too much time (2-8 hr.) is a limited factor of this technique. In this study, using different solutions for DNA extraction and by pass grinding make DNA extraction easy and quickly. This easy quickly DNA extraction method is also suitable for other plants is a convenient, wide use and high throughput new method.

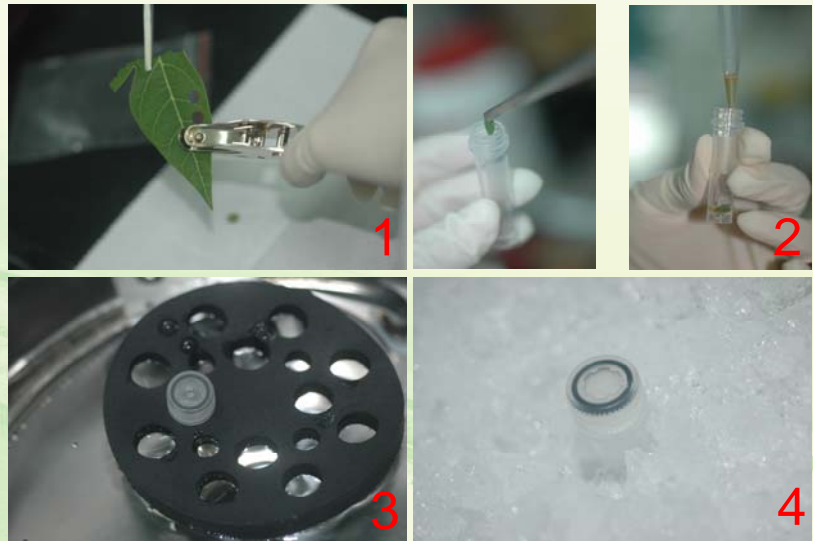
## 1. Four steps for this DNA extraction method (only 5 minutes)

1. Punching plant material.

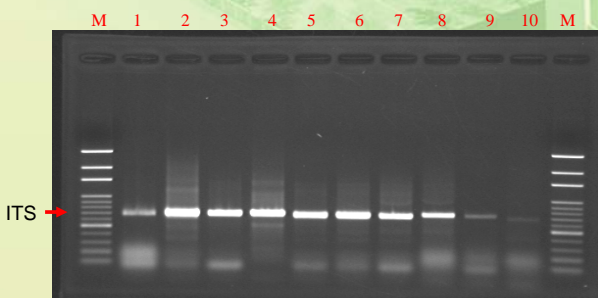
2. Transferring plant disk to eppendorf tube and adding extraction buffer.

3. Place in boiling water for 3 minutes.

4. Keeping on ice until using as PCR template.



## 2. The DNA extraction method is suitable for several plants.

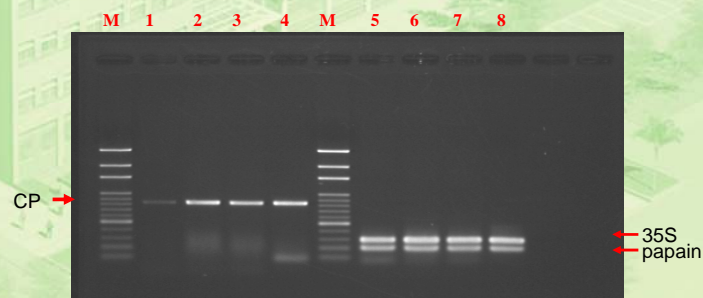


PCR amplification of ITS region.

Samples from left to right are:

M. 100 bp Marker, 1. passionfruit, 2. rape, 3. arabidopsis, 4. tobacco, 5. Chinese cabbage 1, 6. Chinese cabbage 2, 7. bok choy, 8. lettuce, 9. *Oncidium*, 10. Water spinach.

## 3. This method also suitable for transgenic papaya detects.



PCR amplified of CP gene(lane 1-4); multiplex PCR amplified 35S and papain gene region(lane 5-8).

Samples from left to right are:

M. Marker, 1. GM papaya\_a, 2. GM papaya\_b, 3. GM papaya\_c, 4. GM papaya(Traditional DNA extraction method), 5. GM papaya\_a, 6. GM papaya\_b, 7. GM papaya\_c, 8. GM papaya(Traditional DNA extraction method).

