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# DNA Extraction from Rice Leaf

## National Institute of Agrobiological Sciences - Japan

## CONTEXT

The research plan is to isolate the genes of functional proteins and clarify their functions by introducing them into plants.

The lab is studying the gene transfection into a plant seed by electroporation. Our team checks how much volume of DNA is introduced into a seed by a standard molecular biology process.

## MATERIAL

- Precellys®24
- Precellys® kit SK38 (Mixed beads)
- Sample : 0,08g of rice leaf cut into pieces
- Buffer : empty

## PROTOCOL

Precellys®24 parameters: 5000rpm, 1x15 sec.
Before and after the homogenization, the tube is put in liquid nitrogen (LN).

DNA extraction buffer must be poured into the tube while the sample is frozen.
The beads are separated using stainless sieve.

PS: careful of handling LN. Use necessary protective gears.

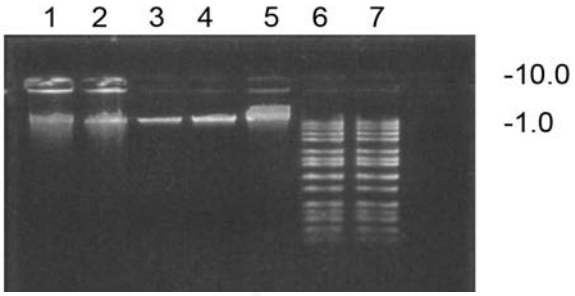
## RESULTS

DNA was extracted with *Nucleon™ PhytoPure™ Genomic DNA Extraction Kits* from GE Helthcare.

*Fresh leaves, before LN*

*Frozen leaves after grinding*

The migration gives the following results :
(Lane No.1 and No.2 are replications)




*1. DNA from rice leaf*
*2. DNA from rice leaf*
*3. λDNA 0.05µg*
*4. λDNA 0.1µg*
*5. λDNA 0.5µg*
*6. Marker*
*7. Marker*

Since the concentration of the λDNA is known, it is used to semi-quantify the amount of extracted DNA by visual observation

## CONCLUSION

The former method was to grind the leaves manually using mortar and pestle. It was laborious and time consuming. Precellys®24 gives us a new approach in our sample preparation, combining efficiency and high-throughput.

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