Dec 23, 2020

# DNA extraction from plants

Forked from DNA extraction from plants

Remco Stam[1]

[1]Technical University of Munich

*In Development* This protocol is published without a DOI.

Nathan Johnson

ABSTRACT

Widely used protocol to extract DNA from plant leaves.
Many versions circulate on the web, this is the version as we use it.
It works well on maize, tomato and probably many other plants.

PROTOCOL CITATION

Remco Stam 2020. DNA extraction from plants. **protocols.io**
https://protocols.io/view/dna-extraction-from-plants-bqzwmx7e

FORK NOTE

FORK FROM

Forked from DNA extraction from plants, Remco Stam



CREATED

Dec 23, 2020

LAST MODIFIED

Dec 23, 2020

PROTOCOL INTEGER ID

45846

MATERIALS TEXT

MATERIALS

- RNase A **Contributed by users**
- Isopropanol **Contributed by users**
- Chloroform **Contributed by users**
- Liquid nitrogen **Contributed by users**
- Ethanol **Contributed by users**
- Isoamylalcohol **Contributed by users**
- Beta-mercaptoethanol **Contributed by users**
- Cetrimonium bromide **Contributed by users**
- Tris **Contributed by users**
- EDTA **Contributed by users**

SAFETY WARNINGS

When working with Beta-Mercaptoethanol or Choroform, always work in a fume hood.

DISCLAIMER:



ABSTRACT

Widely used protocol to extract DNA from plant leaves.
Many versions circulate on the web, this is the version as we use it.
It works well on maize, tomato and probably many other plants.

BEFORE STARTING

Prepare all reagents and materials.

TE Buffer, pH 8.0
For 250 ml:
2.5 ml 1 M Tris HCl, (10 mM)
0.5 ml 0.5 M EDTA, (1 mM)
Add H2O to 250 ml

CTAB Extraction Buffer
For 500 ml:
10 g CTAB (1.5% w/v) (Cetyltrimethylammonium bromide or Certridium Bromide: $C_{19}H_{42}BrN$)
50 ml 1 M Tris HCl, pH 8.0 (75 mM)
20 ml 0.05 M EDTA, pH 8.0 (100 mM)
140 ml NaCl (5M)
290 ml H2O

In a 2 ml tube, add 800 uL of 1,5x CTAB and 1 ul of Beta-mercaptoethanol to the ground leaf material

Incubate 1 hour at 60-65 degrees (C)

Cool at Room Temp
Add 1 volume of Chloroform/Isoamylalkohol (24:1) mixture
Mix on overhead shaker for 10 minutes
Centrifuge at 3000 rmp for 25 minutes

Transfer supernatant to a new tube
Use wide pipette tips (cut point of tips if needed)

Add 10 uL RNAse (10 mg/ml)
incubate at 37 degrees (C) for 30 minutes

Add one volume 100% Isoponanol (pre-chilled at -20)
Allow sample to precepitate for up to 20 minutes at -20

Centrifuge: full speed, 10 minutes
Remove supernatant

Add 1 ml 70% Ethanol
Centrifuge: full speed, 10 minutes
Remove Supernatant

Repeat once

Dry pellet in air or approx 20 minutes in vacuum centrifuge

Dissolve pallet in 1x TE (10 mM Tris, pH8, 1 mM EDTA)