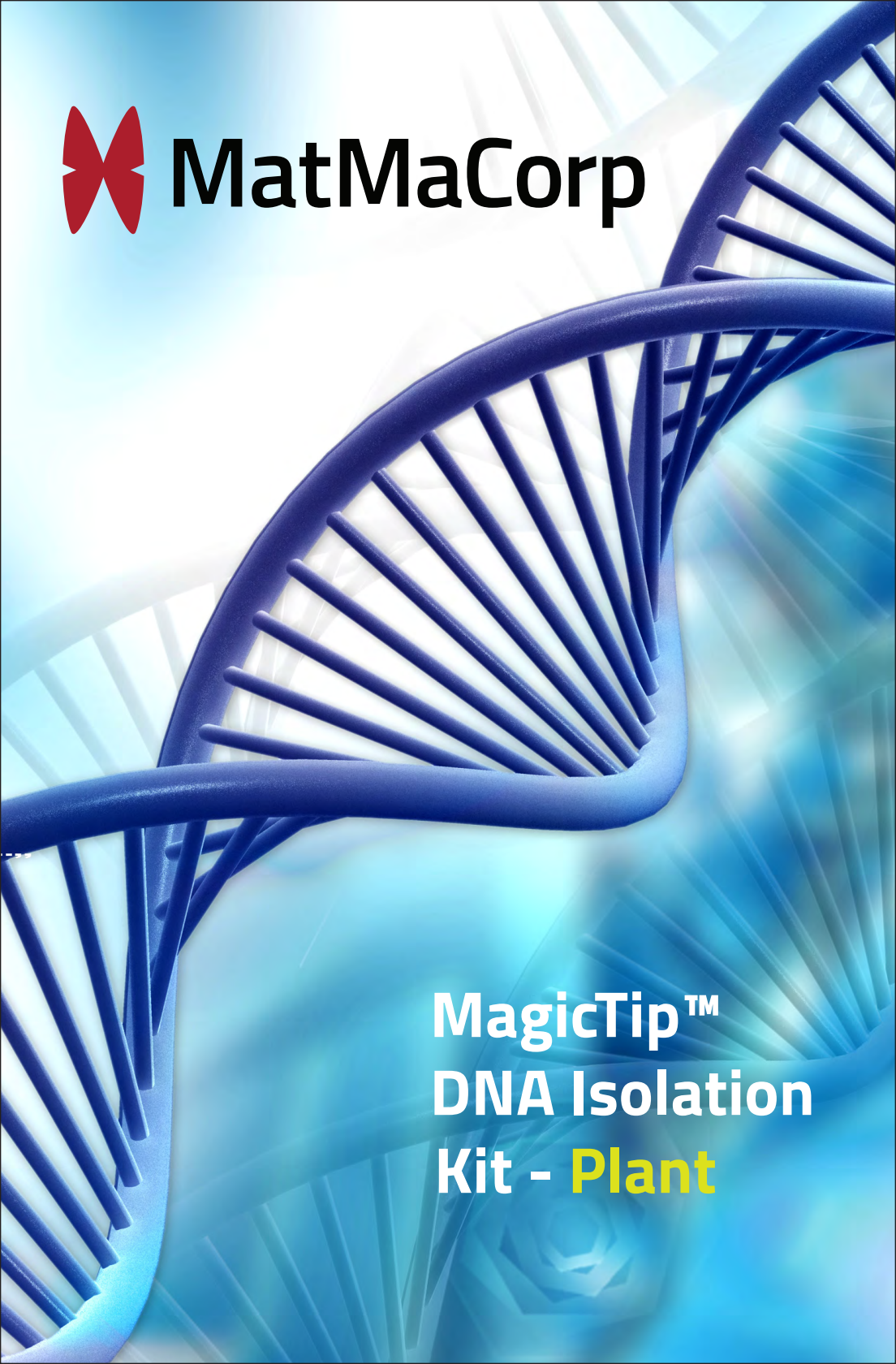
MatMaCorp
MagicTip™
DNA Isolation
Kit - Plant

MagicTip™ DNA Isolation Kit - Plant

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Manual: 1st Edition - January 2018

Patent Pending

Introduction

The MagicTip™ Plant DNA Isolation Kit offers a quick and simple procedure that only requires a small amount of sample material. Under the right conditions, DNA from the sample is bound to the MagicTip™. The binding is reversed in the elution step yielding DNA for use in MatMaCorp's Solas 8™ or other applications such as PCR. The simplicity of this system allows the kit to be used in a variety of settings inside or outside of the laboratory. No special equipment or skills are necessary to use this kit.

This kit allows the user to process samples in about 5 minutes. DNA can be isolated from about 4mg (about four 2mm punches) of leaf material.

Kit storage

The MagicTip™ Plant DNA Isolation kit can be stored at room temperature. Exposing components of this kit to high temperatures (above 90°C), and freezing should be avoided. Use of this kit is not recommended after the expiration date.

Disclaimer

This product has been developed and designed for research purposes only. It is not intended for diagnostic use. Material Safety Data Sheets (MSDS) for all MagicTip™ Isolation Kits can be found at *www.matmacorp.com.*

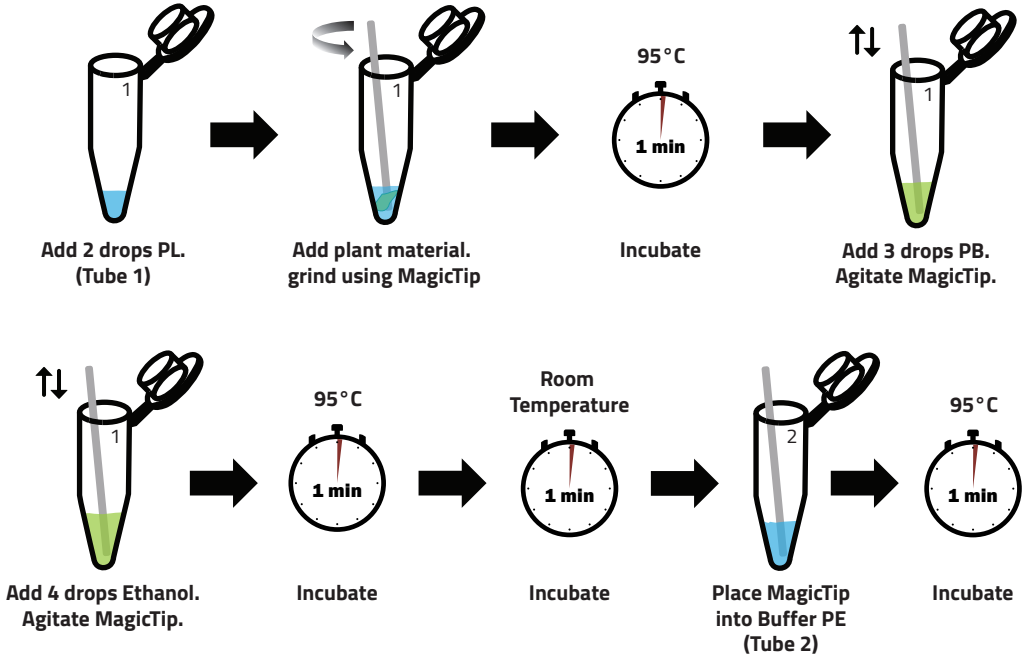
NOTE: PLEASE READ THIS ENTIRE MANUAL INCLUDING THE DETAILED PROCEDURE, BEFORE BEGINNING THE PROTOCOL

Kit Contents

100 of each:
Tube 1
Tube 2
MagicTips™

1 of each:
Dropper bottle with Buffer PL
Dropper bottle with Buffer PB
Dropper bottle with Buffer PE
Dropper bottle (empty) labeled Ethanol
Disposable tube rack

Overview



MagicTip™ Plant Kit Protocol

This protocol has been optimized to isolate DNA from fresh or frozen leaf samples. For DNA isolation from other sample types, please use the appropriate MagicTip™ kit. Although the procedure below is for a single sample, multiple samples may be processed together if desired.

Materials needed by user:

- A heat block (or other heat source) capable of 95°C and compatible with 1.5mL Eppendorf centrifuge tubes.
- 50% ethanol (minimal) up to 100% (optimal)

Preparation:

1. One Tube 1 and one Tube 2 are needed for each sample; label this pair with the sample ID and place tubes in the paper tube rack provided.
2. Fill the dropper bottle labeled "Ethanol" with ethanol, replace dropper tip and cap.
3. Place two drops of Lysis Buffer PL into tube 1.
4. Place two drops of Elution Buffer PE into tube 2.
5. Repeat steps 1-4 for remaining samples.

NOTE: If you are using the Solas 8™ for DNA isolation, please refer to the appropriate protocol on the screen of the device. Alternatively, you can find a PDF copy of the protocol on the MagicTip™ product page at *www.matmacorp.com*.

Procedure:

1. Place 4mg (4mg ≈ four 2mm punches) of plant material that you wish to test into tube 1 which contains lysis buffer PL and add a MagicTip™.

   NOTE: Gloves are recommended to prevent contamination. It is important that the end of the MagicTip™ that is handled with bare fingers is not the end used for DNA binding. This MagicTip™ should remain in the tube during all steps until instructed otherwise.

2. Homogenize the plant material by grinding it firmly with the MagicTip™ for approximately 30 seconds.

   NOTE: Too much lateral pressure on the MagicTip™ will cause breakage. Exercise caution while grinding the material.

3. Heat tube 1 to 95°C for 1 minute.

4. Remove tube from heat and place in tube rack.

5. Add three drops of Binding Buffer PB to Tube 1 and mix vigorously with MagicTip™ for 6 seconds.

   NOTE: Plant material must remain in the solution after each step.

6. Add 4 drops of ethanol (>50%, 100% is optimal) to tube 1 and mix the solution with the MagicTip™ for 6 seconds.

7. Heat tube 1 at 95°C for 1 minute.

8. Remove tube from heat and place in tube rack to incubate at room temperature for 1 minute.

9. Gently spin the MagicTip™ between finger and thumb then move it to tube 2 that contains the Elution Buffer PE in it. Discard tube 1 when finished.

10. Heat tube 2 at 95°C for 1 minute.

11. Remove tube 2 from heat and immediately agitate MagicTip™ vigorously for 5-10 seconds to release DNA into the solution.

12. Discard MagicTip™.

13. DNA preparation is complete.

Troubleshooting

Problem	Cause	Solution
Low Yield	Insufficient Homogenization	Be sure to grind plant material firmly with MagicTip™
	Incorrect temperature	Check that incubation temperatures are correct before loading sample tubes onto heat source.
	Insufficient amount of leaf material used	If too little material is added to tube 1, yield will decrease. Approximately 4 - 6mg of material is suggested.
	Decreased elution	Agitate MagicTip™ vigorously in tube 2 following final incubation. Tube 2 should be incubated for at least 1 minute at 95°C but up to 3 minutes for a slight increase in DNA yield.
Problem	**Cause**	**Solution**
Low Purity	Contamination on the leaf	Be sure to choose a leaf that is free from chemical treatment that may inhibit the DNA isolation process.
	Degraded sample	Improperly stored or discolored leaves can negatively affect results

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