



MagicTip™
DNA Isolation
Kit - Hair

MagicTip™ DNA Isolation Kit - Hair

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Patent Pending



Introduction

The MagicTip™ Hair DNA Isolation Kit offers a quick and simple procedure that requires only a few hair follicles. 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.

This kit can process samples in about 15 minutes. No special equipment or skills are necessary to use this kit.

Kit storage

The MagicTip™ Hair 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

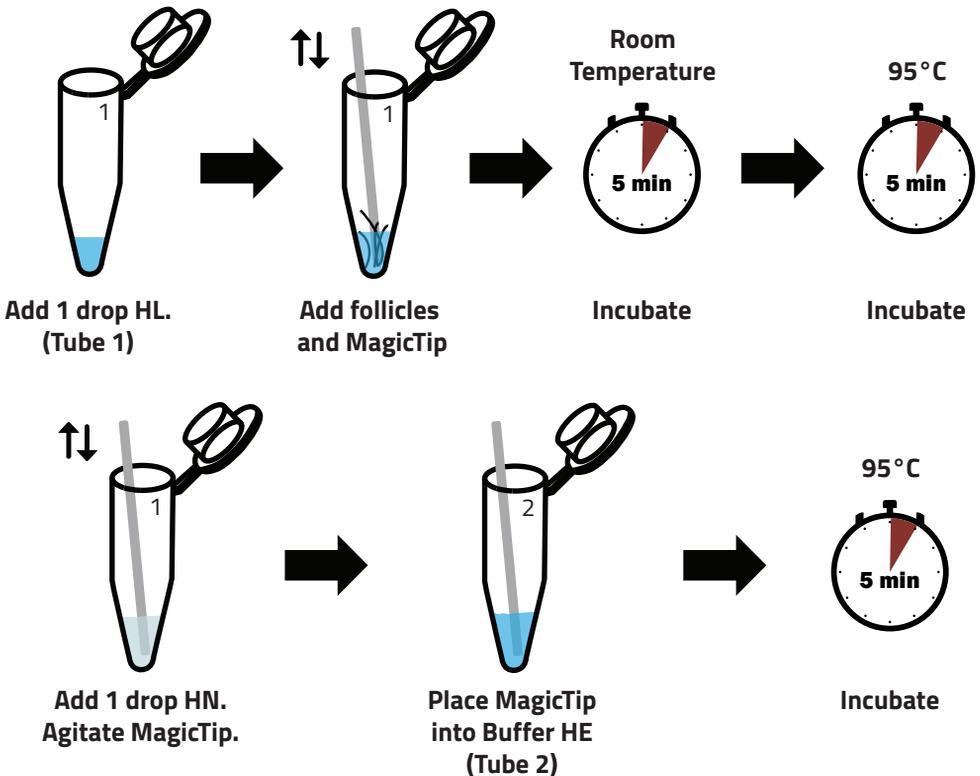
100 of each:

- Tube 1
- Tube 2
- MagicTips™

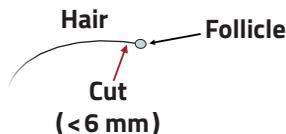
1 of each:

- Dropper bottle of Lysis Buffer HL
- Dropper bottle of Neutralizing Buffer HN
- Dropper bottle of Elution Buffer HE
- Disposable tube rack

Overview



The hair follicle is the bulbous structure at one end of a hair. The hair should be cut above the follicle so that the follicle ends up in tube #1.





MagicTip™ Hair Kit Protocol

This protocol has been optimized to isolate DNA from hair follicles. 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 tubes

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. Place one drop of Lysis Buffer HL into tube 1.
3. Place one drop of Elution Buffer HE into tube 2.
4. Repeat steps 1-3 for the 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. Add 4 to 10 hair follicles to tube 1 containing lysis buffer.

NOTE: The size of the follicle will affect overall yield. More follicles should be used if the follicle is not visible or very small.

2. Place a fresh, unused MagicTip™ in tube 1 and mix solution vigorously with the MagicTip™ for about 6 seconds to evenly lyse sample. Check to be sure the follicles are not stuck to the wall of the tube.

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.

3. Incubate at room temperature for 5 minutes in tube rack.
4. Heat tube 1 that contains the MagicTip™ to 95°C for 5 minutes.
5. Remove tube from heat and place in tube rack.
6. Add one drop of Neutralizing Buffer HN to the sample and gently mix. The solution may become opaque, this is normal.
7. Gently spin MagicTip™ between fingers 2 to 3 times and remove from tube 1.

NOTE: If any amount of hair is stuck to the MagicTip™, gently scrape off all the material using the rim of Tube 1 before placing the MagicTip™ into Tube 2.

8. Place MagicTip™ into tube 2 and discard tube 1.
9. Heat tube 2 to 95°C for 5 minutes. This elutes DNA bound to the MagicTip™.
10. Remove tube 2 from heat, agitate MagicTip™ vigorously for 5-10 seconds to release DNA into the solution.
11. Discard MagicTip™.
12. DNA preparation is complete.



Troubleshooting

Problem	Cause	Solution
Low Yield	Buffer HN not mixed well	Buffer and solution should be mixed vigorously.
	Incorrect temperature	Be certain the heating temperature has been reached before loading samples during incubation.
	Too few small follicles	If fewer than 4 follicles are used, yield will decrease unless they are very large follicles. For very small follicles, we recommend using 8.
	Decreased elution	MagicTip™ not agitated vigorously enough in tube 2 following final incubation. Tube 2 should be incubated for at least 5 minutes at 95°C but can be incubated for up to 15 minutes for a slight increase in DNA yield.
Problem	Cause	Solution
Low Purity	Too much debris carried over from binding	If hair material is stuck to the MagicTip™ after buffer HN, the MagicTip™ can be gently scraped against the side of the tube to remove the material.



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