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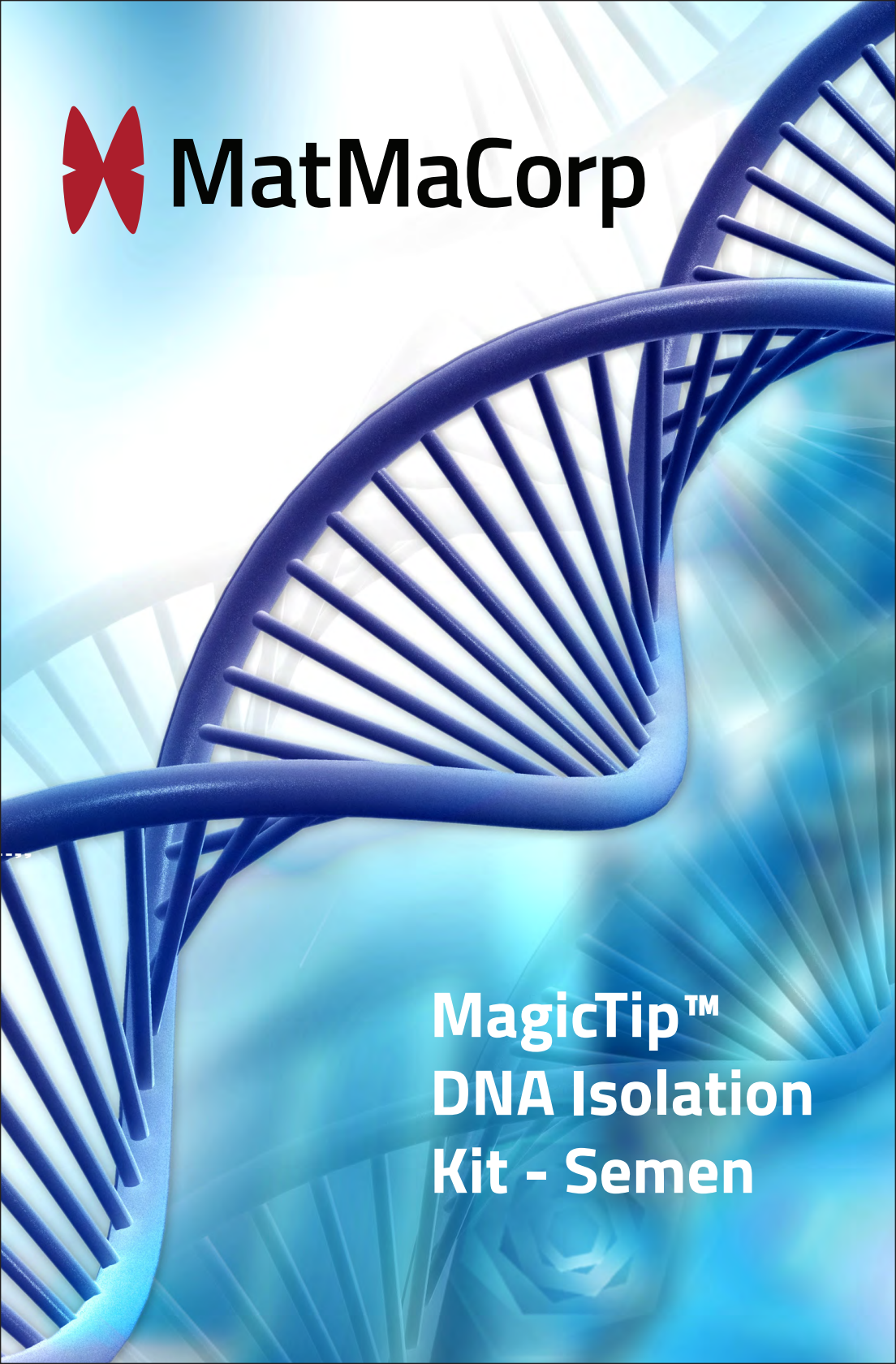

MagicTip™ DNA Isolation Kit - Semen

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Manual: 1st Edition - May 2019

Introduction

The MagicTip™ Semen DNA Isolation Kit offers a quick and simple procedure that requires only a small volume of sample material. In about 5 minutes, DNA can be isolated from as little as 25µL of semen. Under the right conditions, DNA from semen 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.

During development, this kit has been tested on both extended and undiluted samples. Please note, extended semen as found in semen straws may contain material that affects DNA purity and yield, potentially disrupting downstream applications. No special equipment or skills are necessary to use this kit.

Kit storage

The MagicTip™ Semen kit can be stored at room temperature. Exposing components of this kit to high temperatures (above 90°C) or 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.*

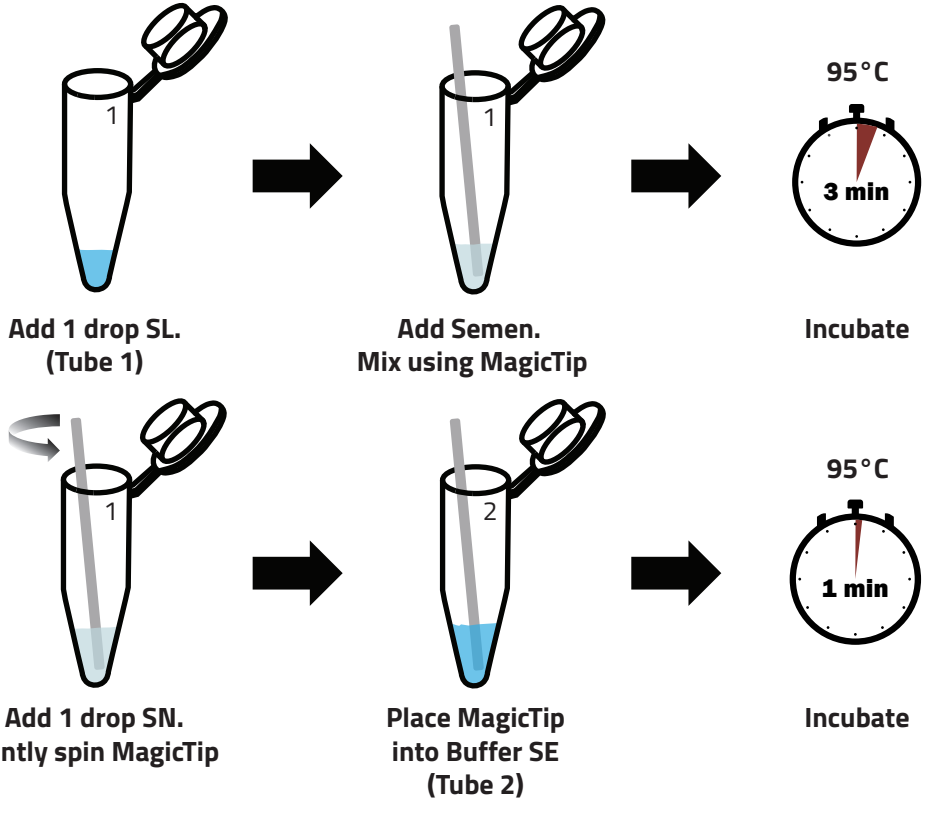
NOTE: PLEASE READ THIS ENTIRE MANUAL INCLUDING THE DETAILED PROCEDURE, BEFORE BEGINNING THE PROTOCOL

Kit Contents

100 of each:
Tube 1
Tube 2
MagicTips™

1 of each:
Dropper bottle with Lysis Buffer SL
Dropper bottle with Neutralizing Buffer SN
Dropper bottle with Elution Buffer SE
Disposable tube rack

Overview



MagicTip™ Semen Kit Protocol

This protocol has been optimized to isolate DNA from semen samples. For DNA isolation from other sample types, we recommend 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.
- Syringe or other tool for dispensing semen sample. If available, a pipette may be used.

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 SL into tube 1.
3. Place one drop of Elution Buffer SE into tube 2.
4. Repeat steps 2-3 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. Add one drop of semen (approximately 25µL) to tube 1 that has lysis buffer SL.

2. Place a fresh, unused MagicTip™ in tube 1 and mix solution vigorously with the MagicTip™ for about 6 seconds to evenly lyse sample.

   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. Heat tube 1 at 95°C for 3 minutes.

4. Remove tube 1 from heat and place in tube rack.

5. Add one drop of Neutralizing Buffer SN to sample. Quickly proceed to step 6.

6. Gently spin the MagicTip™ 2 to 3 times between your fingers while in tube 1 to collect DNA, then place it into tube 2. Discard tube 1.

7. Heat tube 2 at 95°C for 1 minute.

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

9. Discard MagicTip™.

10. DNA preparation is complete.

Troubleshooting

Problem	Cause	Solution
Low Yield	Buffer SL and samples not mixed well	Mix buffer and semen solutions very vigorously for about 6 seconds or more.
	Incorrect temperature	Check that incubation temperatures are correct before loading sample tubes onto heat source.
	Extended semen	Semen straws are extended (diluted) therefore will result in a lower yield. For best results, avoid using diluted semen.
	Low volume of semen	If semen sample is under 25µL, yield may decrease. Slightly increase the volume of semen if possible.
	Decreased elution	MagicTip™ not agitated vigorously enough in tube 2 following final incubation. Tube 2 should be incubated for at least 1 minute at 95°C but can be incubated for up to 5 minutes for a slight increase in DNA yield. Avoid allowing tube 2 to cool before removing the MagicTip™.
Problem	**Cause**	**Solution**
Low Purity	Semen straw extender	Semen straws are often extended with an unknown solution. It is recommended to use fresh semen with this kit if it is available.
	Slow transition after adding Buffer SN to sample	After adding Buffer SN, quickly proceed to the next step without over-mixing to avoid formation of precipitate.

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