

# Purification of DNA from mouse tail and ear punches using the Maxwell<sup>®</sup> RSC Tissue DNA Kit and Maxwell<sup>®</sup> RSC Instrument

Promega Corporation

## Materials Required

- Maxwell<sup>®</sup> RSC Tissue DNA Kit, (Cat.# AS1610)
- Maxwell<sup>®</sup> RSC Instrument (Cat.# AS4500)
- Disposable Pellet Pestles with Tube (Fisher Cat.# 12-141-386)
- (Optional) RNaseA (Cat.# A797C)
- Fresh-frozen mouse tail and ear punch samples

**Protocol:** Maxwell<sup>®</sup> RSC Tissue DNA Kit Technical Manual #TM476, available at: [www.promega.com/protocols](http://www.promega.com/protocols), or e-mail: [techserv@promega.com](mailto:techserv@promega.com)

## Introduction:

The Maxwell<sup>®</sup> RSC Tissue DNA Kit, in combination with the Maxwell<sup>®</sup> RSC Instrument, provides a simple method for efficient, automated purification of high-quality genomic DNA (gDNA) from mammalian tissue. This application note describes the protocol for using this kit to purify DNA from mouse tail snips and ear punches.

## Protocol Methods

1. Add mouse tail snip or ear punch sample to tube.
2. Add 80µl of TE buffer to the sample in the tube.
3. Using the pestle, thoroughly disrupt and homogenize the tissue sample.

**Note:** Do not centrifuge samples. DNA recovery will be low if entire contents are not added to well #1 of the Maxwell<sup>®</sup> cartridge.

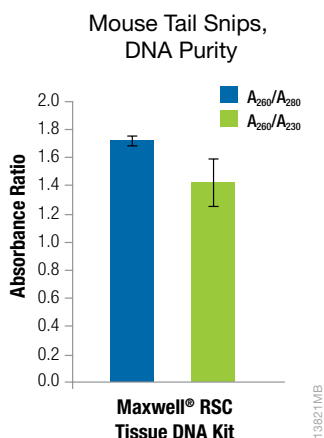
4. Place the cartridge to be used in the deck tray with the printed side facing away from the elution position, which is the numbered side of the tray.
5. Press down on the cartridge to snap it into position. Carefully peel back the seal so that all plastic comes off the top of the cartridge. Ensure that all sealing tape and any residual adhesive are removed before placing the cartridge in the instrument.

**Note:** If you are processing fewer than 16 samples, center the cartridges on the deck tray.

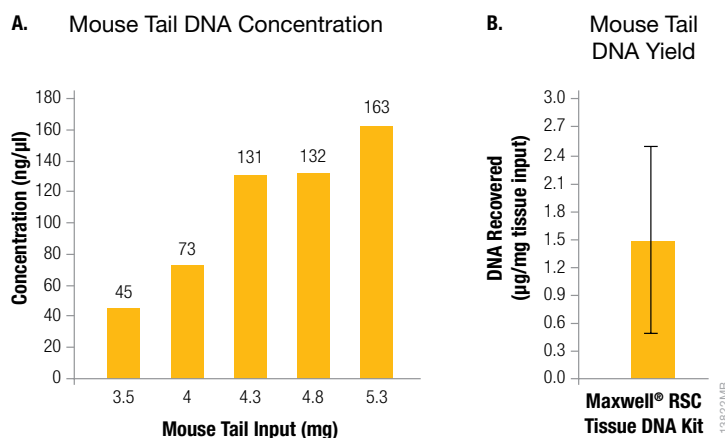
6. Transfer entire contents of the homogenized tissue sample to well #1 of a cartridge and thoroughly mix the tissue samples into the lysis buffer by pipetting at least 10 times. (Well #1 is the well closest to the printed side and furthest from the elution tube.)
7. Place one plunger in well #8 of each cartridge. (Well #8 is the well closest to the elution tube.)
8. Place an empty elution tube into the elution tube position for each cartridge. Add 100µl of Elution Buffer to the bottom of each elution tube.

**Note:** Use only the Elution Tubes (0.5ml) provided with the kit; other tubes may be incompatible with the Maxwell<sup>®</sup> RSC Instrument.

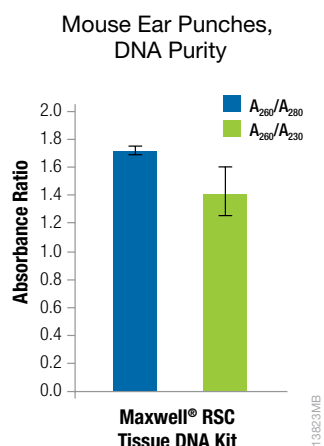
## Results



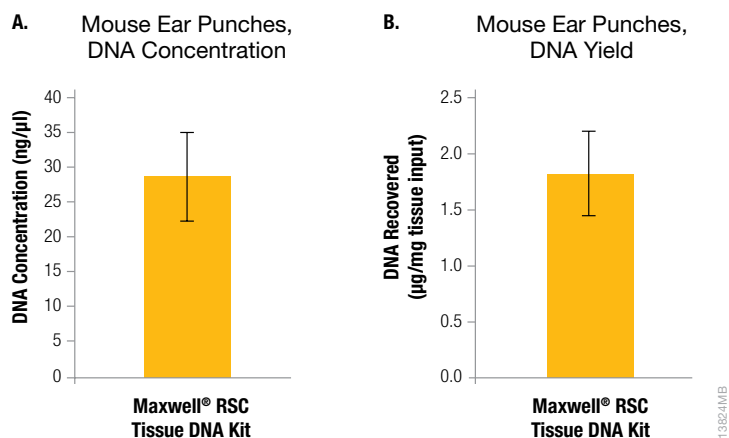
**Figure 1.** Purity ratios of DNA purified from mouse tail snips using the Maxwell® RSC Tissue DNA kit and Maxwell® RSC Instrument. Purity ( $A_{260}/A_{280}$ ;  $A_{260}/A_{230}$ ) of the eluates were measured by NanoDrop (n=5).



**Figure 2.** DNA quantitation of purified mouse tail snips using the Maxwell® RSC Tissue DNA kit and Maxwell® RSC Instrument. DNA was quantified using fluorescent dye method (QuantiFluor® ONE dsDNA System). **Panel A.** DNA concentration for five different sample tissue masses; **panel B.** Calculated DNA recovery per mg of tissue input.



**Figure 3.** Purity ratios of DNA purified from mouse 2–3mm ear punches using the Maxwell® RSC Tissue DNA kit and Maxwell® RSC Instrument. Purity ( $A_{260}/A_{280}$ ;  $A_{260}/A_{230}$ ) of the eluates were measured by NanoDrop (n=5).



**Figure 4.** DNA quantitation of purified 2–3mm mouse ear punches using the Maxwell® RSC Tissue DNA kit and Maxwell® RSC Instrument. DNA was quantified (n=5) using fluorescent dye method (QuantiFluor® ONE dsDNA System). **Panel A.** DNA concentration; **panel B.** DNA yield.

### Ordering Information

Product	Size	Cat.#
Maxwell® RSC Tissue DNA Kit	48 preps	AS1610
QuantiFluor® ONE dsDNA System	100 reactions	E4871
QuantiFluor® ONE dsDNA System	500 reactions	E4870

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