Promega

Product Application

Purification of DNA from Environmental Touch Samples using the Maxwell® RSC Instrument

DNA was purified from environmental touch samples using the Maxwell® RSC Cell DNA Purification Kit on the Maxwell® RSC Instrument.

Kit: Maxwell® RSC Cell DNA Purification Kit (Cat.# AS1370)

Analyses: Dye-based quantitation and qPCR

Sample Type(s): Touch samples from various locations inside and on the outside of an airplane

Input: 1 swab per touch sample

Materials Required:

- Maxwell® RSC Instrument (Cat.# AS4500)
- Maxwell® RSC Cell DNA Purification Kit (Cat.# AS1370)
- eSwab (Copan, Cat.# 480C)
- Casework Extraction Kit (Cat.# DC6745)
- Lysis Buffer (Cat.# A8261)
- DNA IQ™ Spin Baskets (Cat.# V1221)
- ClickFit Microtube, 1.5ml (Cat.# V4741)

This protocol was developed by Promega Applications Scientists and is intended for research use only.

Users are responsible for determining suitability of the protocol for their application.

For further information, see Technical Manual TM418, available at: **www.promega.com/protocols**

or contact Technical Services at: **techserv@promega.com**

Protocol:

1. Collect touch samples using eSwabs.
2. For each sample, place a DNA IQ™ Spin Basket in a ClickFit Microtube.
3. Cut off swab head and place head and liquid media into spin basket.
4. Centrifuge for 2 minutes at maximum speed.
5. Remove spin baskets and swab heads from microtube and discard.
6. Centrifuge samples in microtube for 5 minutes at maximum speed to pellet the sample.
7. Remove the supernatant and discard.
8. Add 386µl of Casework Extraction Buffer, 10µl of Proteinase K, and 4µl of 1-Thioglycerol to each pellet.
9. Vortex to resuspend the sample pellets and incubate at 56°C for 30 minutes.
10. Add 200ul of Lysis Buffer to each sample, vortex, and then transfer to the well #1 of the Maxwell® RSC Cell DNA Purification Kit cartridge.
11. Place a plunger in well #8 of each cartridge.
12. Place an empty elution tube into the elution tube position for each cartridge in the deck tray.
13. Add 50µl of Elution Buffer to the bottom of each elution tube.
14. Run the Maxwell® RSC Cell DNA Purification method on the Maxwell® RSC Instrument.

Results:

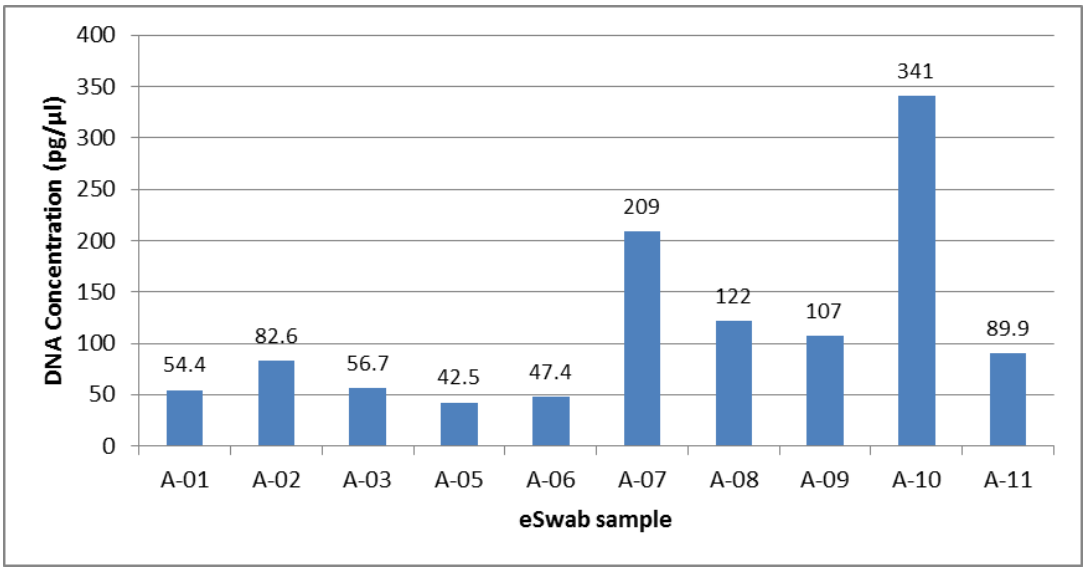

Figure 1. Concentration of DNA purified from environmental touch samples using the Maxwell® RSC Cell DNA Purification Kit (Cat.# AS1370) on the Maxwell® RSC Instrument (Cat.# AS4500). DNA samples were quantitated using the QuantiFluor® ONE dsDNA System (Cat.# E4871) on the Quantus™ Fluorometer (Cat.# E6150). Samples A-01 through A-06 were collected from inside the airplane. Samples A-07 through A-11 were collected from the outside of the airplane. DNA was successfully purified from each swabbed location.

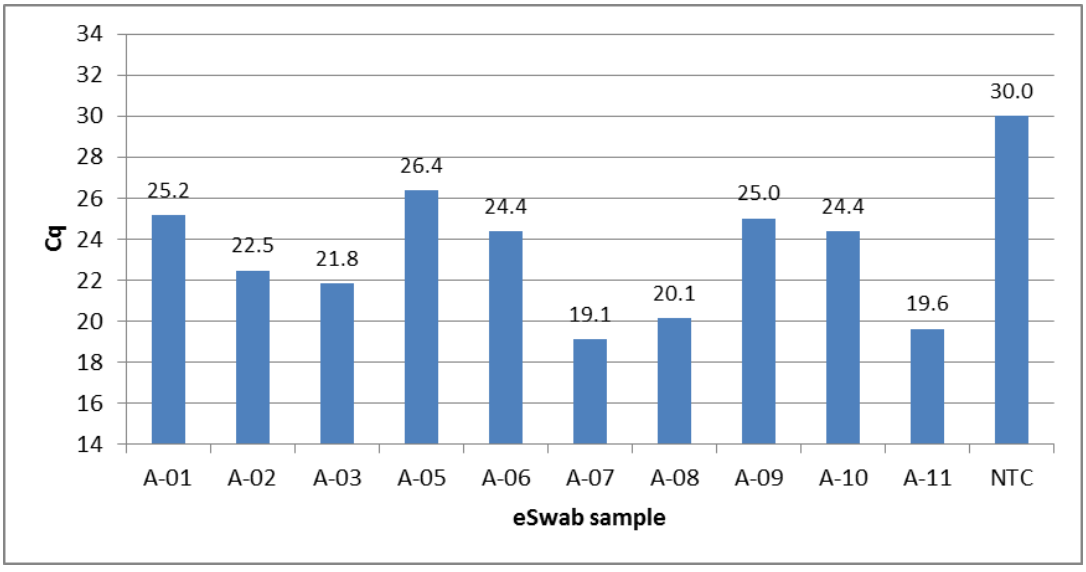

Figure 2. qPCR of DNA purified from environmental touch samples using the Maxwell® RSC Cell DNA Purification Kit (Cat.# AS1370) on the Maxwell® RSC Instrument (Cat.# AS4500). 5µl of each eluate was assayed in a 50µl reaction using the GoTaq® qPCR Master Mix (Cat.# A6001) and eubacterial PCR primers on the CFX96 Real-Time PCR Detection System. DNA was successfully amplified from all environmental touch samples. NTC = no template control amplification.