Promega

Product Application

Automated Purification of DNA from Mouthwash Samples

Purify DNA from mouthwash samples using the Maxwell® RSC Instrument and the Maxwell® RSC Blood DNA Kit.

Kit: Maxwell® RSC Blood DNA Kit (Cat.# AS1400)

Analyses: UV absorbance, dye-based and qPCR

Sample Type(s): Oral rinse with water
Scope Classic® mouthwash samples
Listerine Original® mouthwash samples

Input: 10ml of mouthwash

Materials Required:

- Maxwell® RSC Instrument (Cat.# AS4500)
- Maxwell® RSC Blood DNA Kit (Cat.# AS1400)
- QuantiFluor® ONE dsDNA System (Cat.# E4871)
- PowerQuant® System (Cat.# PQ5002)
- PBS
- Vortex
- Thermoblock

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 TM419, available at: **www.promega.com/protocols**

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

Protocol:

1. Pre-process mouthwash samples. Samples can be processed fresh or frozen (thaw before processing):
   a. Centrifuge the 10ml mouthwash samples at 10,000 x *g* for 5 minutes.
   b. Remove supernatant.
   c. Add 1ml of PBS and vortex to resuspend the pellet.
   d. Transfer up to half of the sample (≤500µl) into a 1.5ml tube.
   e. Centrifuge at 2,000 x *g* for 2 minutes.
   f. Remove supernatant.
2. Add 30µl of Proteinase K (PK) Solution to each tube.
3. Add 300µl of Lysis Buffer to each tube.
4. Vortex until the pellet is resuspended.
5. Incubate at 56°C for 20 minutes.
6. Transfer the lysate to well #1 of a Maxwell® RSC Blood DNA Kit cartridge.
7. Place the plunger and the elution tube in the appropriate locations, according to the Maxwell® RSC Blood DNA Kit Technical Manual (TM419).
8. Add 50µl of Elution Buffer to each elution tube.
9. Run the protocol Maxwell® RSC Blood DNA on the Maxwell® RSC Instrument.

Results:

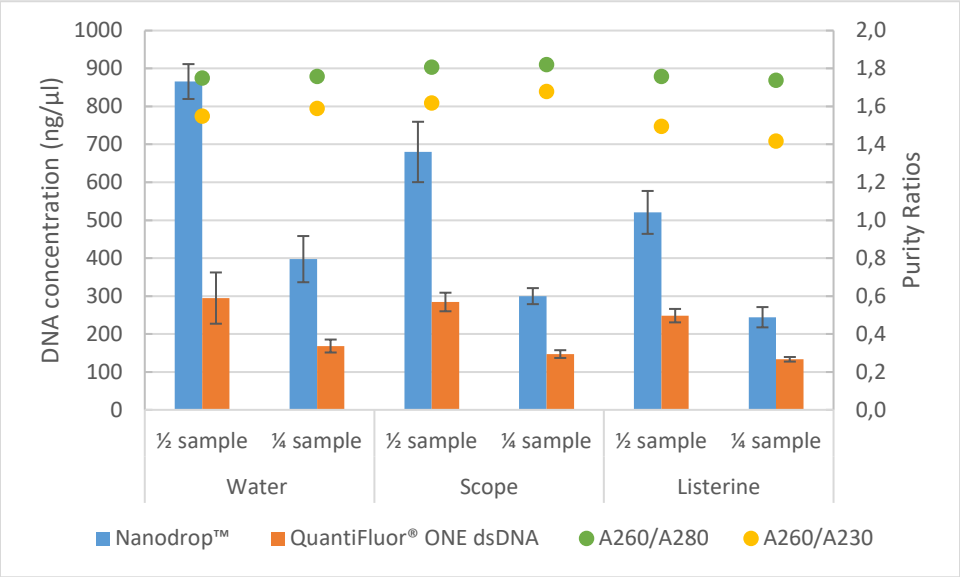

Figure 1. DNA purification from mouthwash samples using the Maxwell® RSC Blood DNA Kit on the Maxwell® RSC Instrument. DNA was purified in triplicate from ½ (500µl) or ¼ (250µl) of 10ml mouthwash samples using the above protocol. DNA concentration and purity ratios were assessed by NanoDrop™ One (Thermo Fisher Scientific) and QuantiFluor® ONE dsDNA System. Mean ± STD of n=3 is shown for DNA concentration, and mean purity ratios are shown on the secondary y-axis. After extraction, DNA eluates were amplified using PowerQuant® System and no qPCR inhibition was observed (data not shown).