

### DNA extraction from grape using the Maxwell® RSC Instrument with Maxwell® RSC PureFood GMO and Authentication Kit

*Red and white grape DNA was successfully extracted and amplified from pulp and skin samples using Maxwell® RSC instrument and Maxwell® RSC PureFood GMO and Authentication Kit.*

**Kit:** Maxwell® RSC PureFood GMO and Authentication Kit (Cat. #AS1600)

**Analyses:** quantification, qPCR amplification

**Sample Type(s):** Red or white grapes from *Vitis vinifera* species

**Input:** 100mg

**Materials Required:**

- Maxwell® RSC PureFood GMO and Authentication Kit (Cat. #AS1600)
- Maxwell® RSC instrument (Cat. #AS4500)
- Thermoblock
- Centrifuge
- PVP (polyvinylpyrrolidone)
- 1-thioglycerol
- Bead beating device (e.g: FastPrep 24 from MP biomedical)
- Bead (¼" Ceramic sphere from MP biomedical)

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.

Further information can be found in Technical Manual #TM473, available at:

[www.promega.com/protocols](http://www.promega.com/protocols)

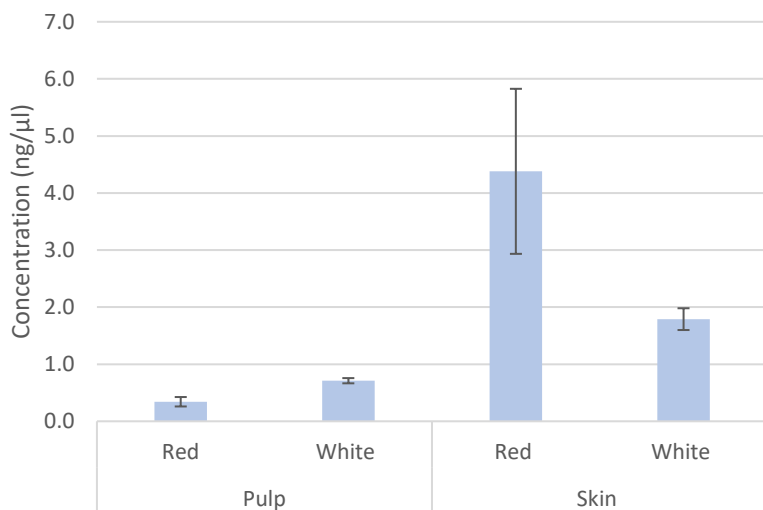
or by e-mailing technical services at [techserv@promega.com](mailto:techserv@promega.com)

**Protocol:**

1. Place 100mg of samples (pulp or skin) into a bead-beating tube with one ¼ ceramic bead.
2. Add 1ml of CTAB buffer with 40µl Proteinase K + 20µl RNase + 2% 1-thioglycerol + 2% PVP.
3. Grind the sample using a bead beating device twice at 5.5m/s for 30 seconds.
4. Incubate for 30min at 65°C at 600rpm.
5. Centrifuge samples for 5 minutes at 12000xg for 10min.
6. Prepare cartridges
  - a. Place cartridges in RSC cartridge rack and remove foil seals.
  - b. Add 50-100µl of elution buffer to Elution Tubes and place tubes in the cartridge rack.
  - c. Place plungers into well #8 of the cartridge.
  - d. Add 300µl Lysis Buffer into well #1 of the cartridge.
7. Add 300µl of supernatant of well #1 of the cartridge.
8. Run Maxwell® RSC with PureFood GMO and Authentication Protocol.

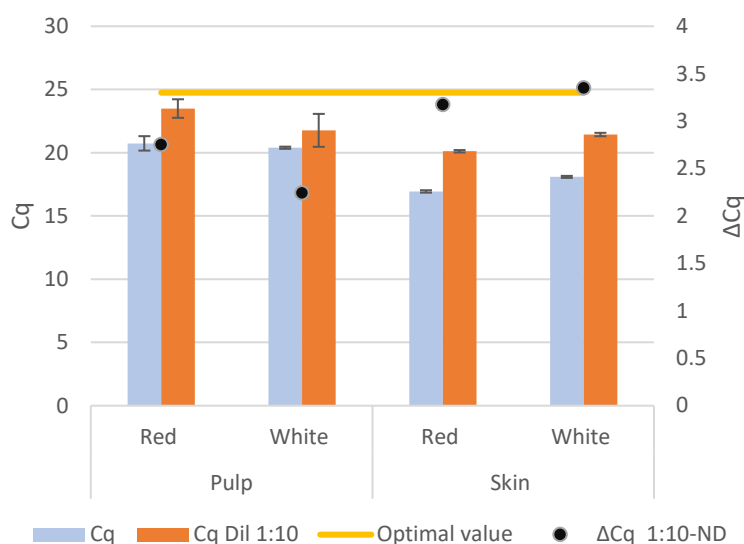
**Results**

## Product Application



**Figure 1: Concentration of DNA extracted from 100mg of grape skin or pulp using Maxwell® RSC PureFood GMO and Authentication Kit.**

Samples were eluted in 50μl. Quantitation using a fluorescent based method (QuantiFluor® ONE dsDNA system). Data are shown as mean ± StDev of n=3.



**Figure 2: Cq and ΔCq analysis of DNA extracted from 100mg of grape skin or pulp.** Cq and ΔCq values for 2μl of no dilution and 1:10 dilution of the extracted DNA amplified using GoTaq® qPCR Master Mix (Cat. #A6002) and Universal plant primers in a final volume of 20μl. A ΔCq of 3.3 indicates no inhibitors present. N=3.