Promega

Product Application

Automated purification of DNA from health supplements containing chondroitin

Purify DNA from chondroitin supplements using the Maxwell® RSC Instrument and Maxwell® RSC Purefood GMO and Authentication kit

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

Analyses: Dye-based quantitation, UV absorbance and qPCR

Sample Type(s): Chondroitin supplements from capsules and tablets

Input: 15mg of chondroitin supplement powder

Materials Required:

- Maxwell® RSC PureFood GMO and Authentication Kit (Cat.# AS1600)
- Maxwell® RSC Instrument (Cat.# AS4500)
- Thermomixer (set at 65°C)
- Microcentrifuge

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 TM473, available at: **www.promega.com/protocols**

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

Protocol:

1. Add 300µl of CTAB buffer, 8µl of RNase A, and 16µl of Proteinase K to each 1.5ml tube containing 15mg of chondroitin supplements from the capsule or ground tablet.
2. Tap, invert, and vortex vigorously on maximum speed until the sample is resuspended.
3. Place samples in a thermomixer at 65°C for 30 minutes.
4. Centrifuge for 10 minutes at 16,000 x *g* to separate any solid or oils.
5. Transfer the cleared sample supernatant and 300µl of Lysis Buffer into well #1 of the Maxwell® RSC cartridge. Avoid pipetting any solid material from the bottom of the tube or oil from the surface.
6. Add plungers to well #8.
7. Place the supplied elution tubes into the sample rack and add 100µl of the elution buffer.
8. Run the method *PureFood GMO and Authentication* on the Maxwell® RSC Instrument.

Results:

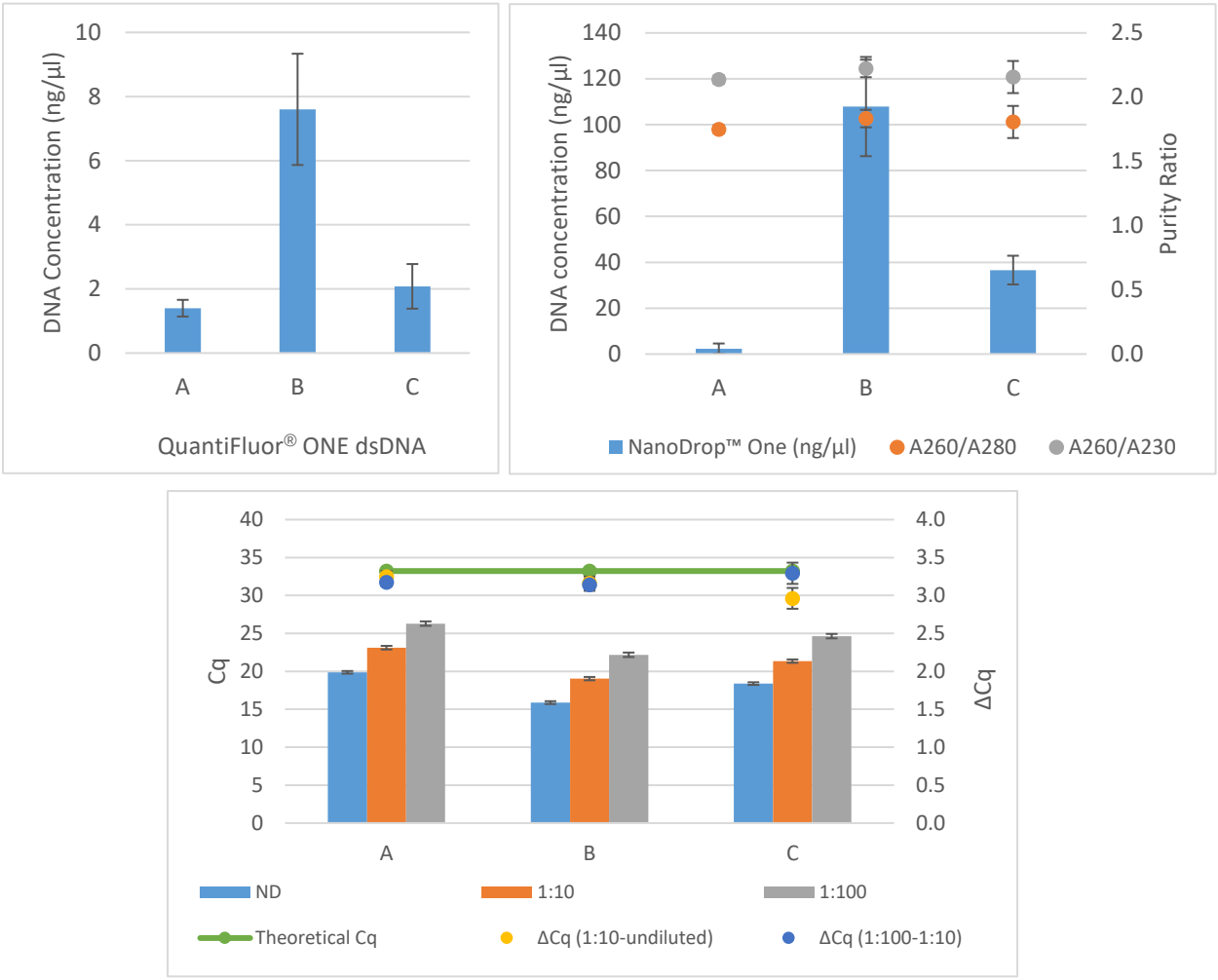

Figure 1. Quantification and qPCR amplification of DNA purified from chondroitin containing health supplements. DNA was isolated from 15mg of health supplements containing chondroitin from individually ground tablets (A and B) and the contents of capsules (C) using the Maxwell® RSC PureFood GMO and Authentication Kit (Cat.# AS1600). DNA concentration was analyzed using QuantiFluor® ONE dsDNA System (Cat.# E4870) **(Top Left)** and NanoDrop™ One **(Top Right)**. 2µl of undiluted, 1:10 diluted, and 1:100 diluted DNA was amplified using GoTaq® qPCR Master Mix (Cat.# A6002) and meat universal primers[1] in a final volume of 20µl. Cq and ΔCq values are shown **(Bottom)**. A ΔCq of 3.3 resulting from a 10-fold sample dilution mathematically represents no inhibition. Average values from three individual tablets/capsules ± STD are shown.

Reference:

1. Sawyer *et al:* Real-time PCR for quantitative meat species testing. Food Control 2003; 14:579-583.