Promega

Product Application

DNA Purification from Dairy Products using the Maxwell® RSC System

DNA purified from dairy product samples using the Maxwell® RSC PureFood GMO and Authentication Kit was successfully amplified by qPCR.

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

Analyses: qPCR amplification

Sample Type(s): "Vache qui rit" cheese portion, Saint Nectaire cheese, ice cream, powdered milk

Input: 50mg

Materials Required:

- Maxwell® RSC Instrument (Cat.# AS4500)
- Maxwell® RSC PureFood GMO and Authentication Kit (Cat.# AS1600)

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:

Six samples were analyzed for each sample type; 3 of them were incubated for 90 minutes, and 3 of them were incubated for 30 minutes. Extractions were performed according to the following protocol:

1. For Saint Nectaire cheese samples, homogenize using a mixer and a mortar and pestle precooled at –80°C.
2. Weigh 50mg of sample.
3. Add 1ml of CTAB, 40µl of Proteinase K and 20µl of RNase A to each tube and vortex vigorously.
4. Incubate samples at 65°C, 600rpm, for 90 or 30 minutes, depending on the sample group.
5. Vortex and invert sample tubes; then centrifuge at high speed for 10 minutes.
6. Add 100µl of elution buffer to elution tubes.
7. Add 300µl of lysis buffer and 300µl of sample into the first well of the Maxwell® cartridge.
8. Run the Maxwell® RSC Instrument using the Maxwell® RSC PureFood GMO and Authentication Kit protocol.

Results:

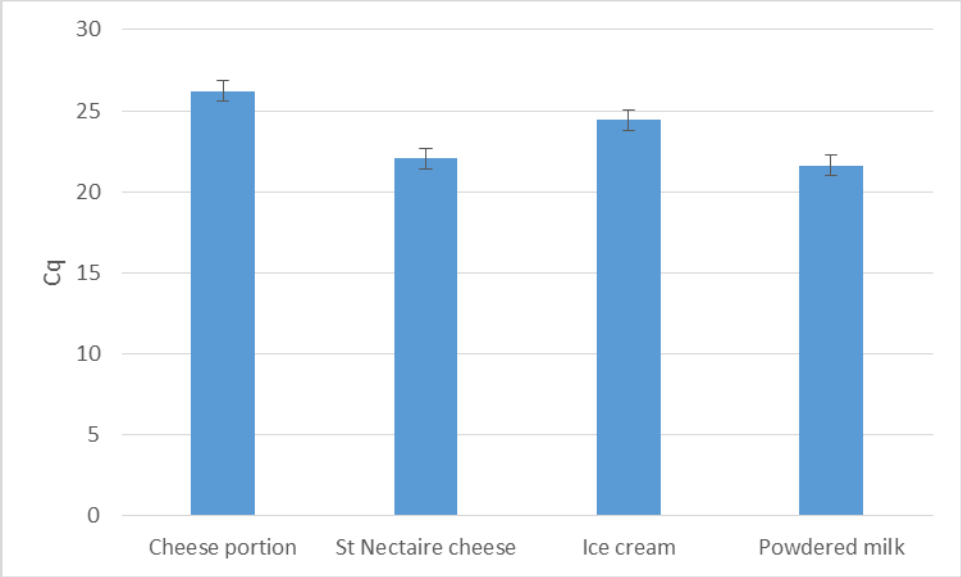

Figure 1. qPCR amplification data. Cq values for 2µl of eluted DNA amplified using the GoTaq® qPCR Master Mix (Cat.# A6001) and universal animal primers M13U12S (1) in a final volume of 20µl. N=3.

Reference:

1. Yang, L. *et al.* (2014) Species identification through mitochondrial rRNA genetic analysis. *Scientific Reports* **4**, 4089.