Promega

Product Application

Dairy Product DNA Purification

Isolate high quality, amplifiable DNA from dairy products using the Maxwell® 16 System.

Kit: Maxwell® 16 FFS Nucleic Acid Extraction Kit (Cat. #X9431)

Analyses: GoTaq® qPCR, QuantiFluor® quantitation

Sample Type(s): powdered milk, ice cream, cheese

Input: 50mg

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, please contact **techserv@promega.com**

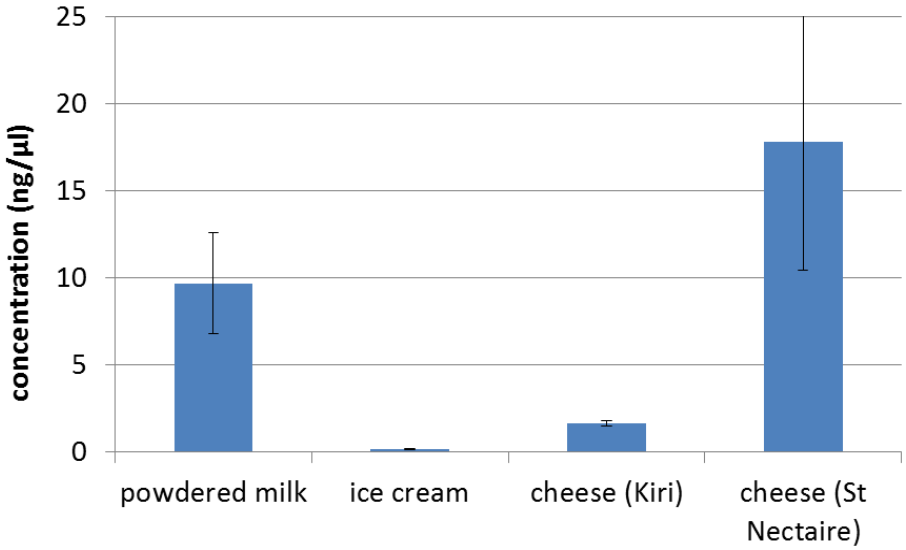
Materials Required:

- Maxwell® 16 Instrument (Cat. #AS2000) with firmware version 4.97
- Maxwell® 16 FFS Nucleic Acid Extraction Kit (custom Cat.# X9431)
- Optional: RNase A Solution (Cat. # A7973)
- CTAB Buffer: 2% CTAB, 1.4M NaCl, 0.1M Tris 10mM EDTA pH 8.0
- Homogenization protocol only: Coffee grinder or other grinding apparatus
- Microcentrifuge
- Heat block to 65°C

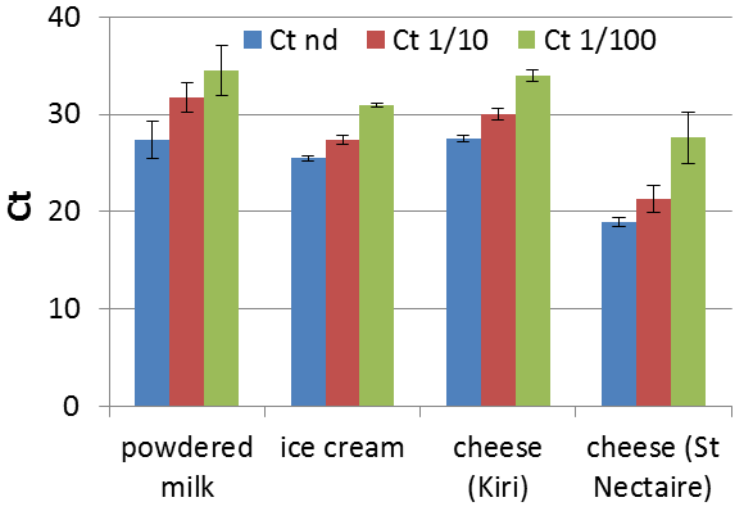
Protocol:

1. Cut in small pieces or grind the sample (if possible) and place 50mg into a tube.
2. Add 600µl of fresh CTAB and 30µl of Proteinase K.
3. Optional: add 20µl RNase A solution.
4. Incubate for 90 minutes at 65°C.
5. Centrifuge for 10 minutes at high speed.
6. Pipet 300µl of sample and 300 µl of Lysis Buffer into well 1 of the Maxwell® cartridge
7. Place the plunger in the indicated position of the cartridge.
8. Select LEV configuration on the Maxwell® Instrument and select method as follows: RUN, DNA: Plant. Start run.

Results:



Concentration of purified DNA. DNA was purified from 50mg of the indicated dairy products and quantified using the Quantifluor® dsDNA System (Cat.# E2670). Values indicate the mean and standard deviation from n=3 samples.



Performance in qPCR. Dairy product DNA was amplified by qPCR using GoTaq® qPCR Master Mix (Cat.# A6001; n=3). Ct values from amplification of 1µl non-diluted (nd) or diluted (1/10 and 1/100) DNA samples were calculated. Delta Ct values between dilutions indicate minimal inhibition of PCR.