Promega

Product Application

Automated Purification of Total RNA from Cerebrospinal Fluid

Purify total RNA including microRNAs from cerebrospinal fluid using the Maxwell® RSC miRNA Plasma and Serum Kit with the Maxwell® RSC Instrument.

Kit: Maxwell® RSC miRNA Plasma and Serum Kit (Cat.# AS1680)

Analyses:

- Dye-based quantitation
- RT-qPCR

Sample Type: Cerebrospinal Fluid (CSF)

Input: 300µl

Materials Required:

- Maxwell® RSC miRNA Plasma and Serum Kit (Cat.# AS1680)
- Maxwell® RSC Instrument (Cat.# AS4500)
- Heat block

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 TM546, available at: **www.promega.com/protocols**

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

Protocol:

1. Add 100-300µl cerebrospinal fluid into 1.5ml microcentrifuge tubes.
2. Continue processing as described in Maxwell® RSC miRNA Plasma and Serum Kit Technical Manual (TM546).
3. Run the miRNA Plasma and Serum protocol on the Maxwell® RSC instrument.

Results:

Total RNA including miRNAs was successfully purified from cerebrospinal fluid (CSF) using the Maxwell® RSC miRNA Plasma and Serum Kit on the Maxwell® RSC Instrument. Total RNA including miRNAs was purified from 100µl and 300µl of CSF sample input from two separate CSF pools.

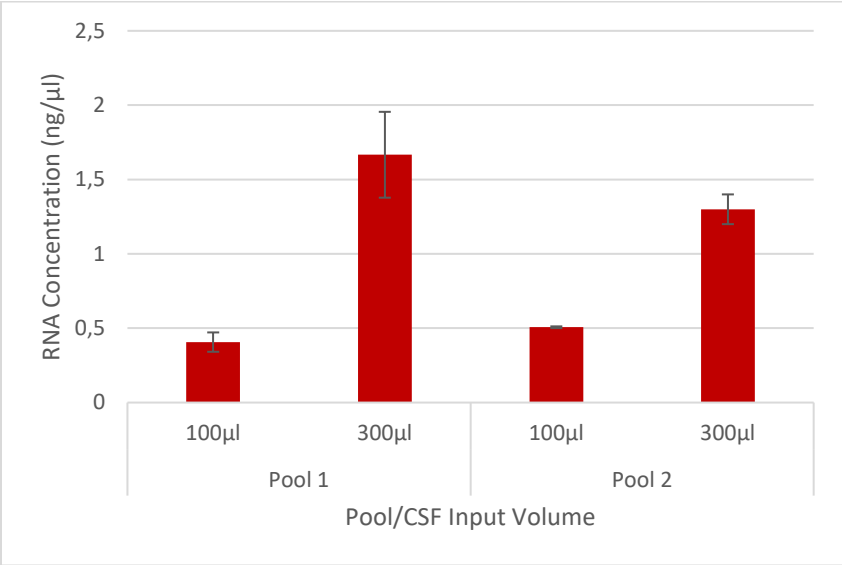

Figure 1. RNA eluate concentration results. Total RNA including miRNAs was purified from two pools of CSF using the Maxwell® RSC miRNA Plasma and Serum Kit (Cat.# AS1680). The RNA concentration of eluates was quantitated using an RNA-binding fluorescent dye (QuantiFluor® RNA System, Cat.# E3310). Data represents the average concentration and standard deviation of triplicate purifications.

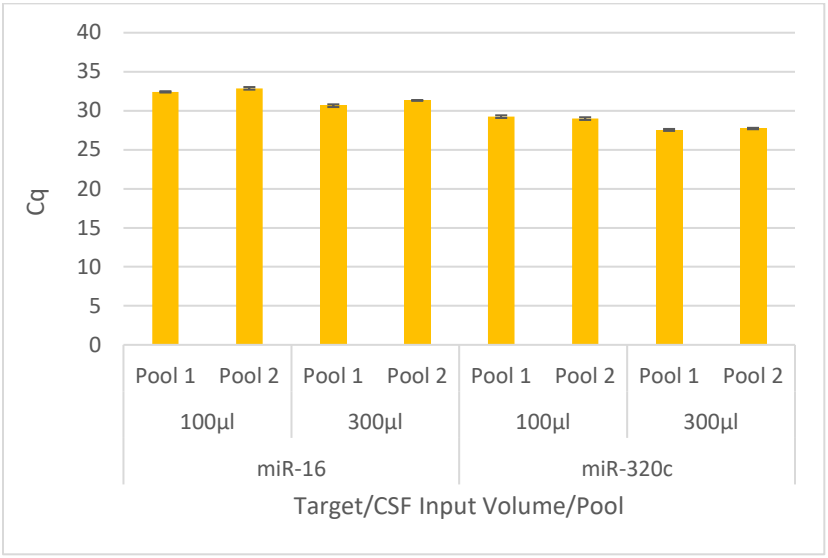

Figure 2. miRNA RT-qPCR amplification results. Triplicate purifications of either 100µl or 300µl CSF from two pools of CSF using the Maxwell® RSC miRNA Plasma and Serum Kit (Cat.# AS1680) were completed. miRNAs were detected using TaqMan™ MicroRNA Reverse Transcription Kit (Cat.# 4366597, Thermo Scientific) for miR-16 and miR-320c. Data represents the average Cq value and standard deviation of triplicate purifications amplified in singlicate.

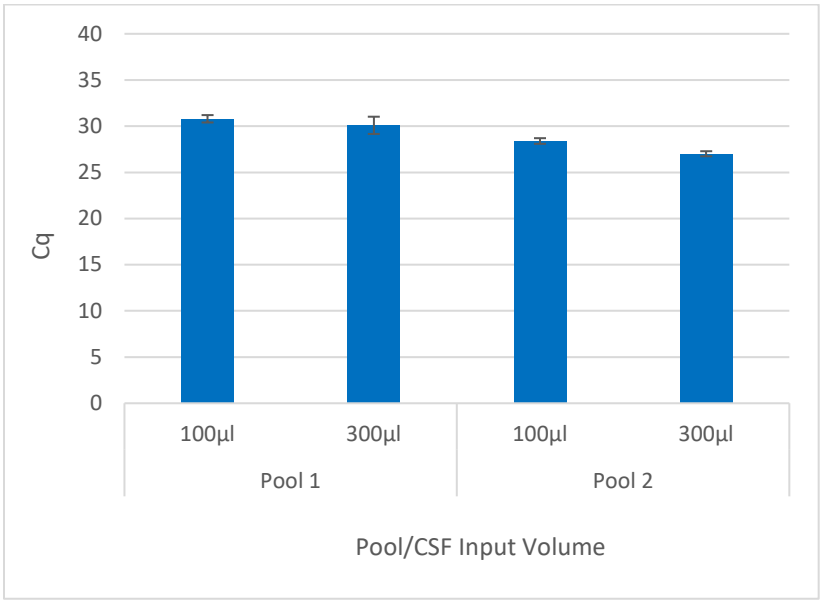

Figure 3. mRNA RT-qPCR amplification results. Triplicate purifications of either 100µl or 300µl CSF from two pools of CSF were completed using the Maxwell® RSC miRNA Plasma and Serum Kit (Cat.# AS1680). β2M RNA was detected using GoTaq® 1-Step RT-qPCR System (Cat.# A6020). Data represents the average Cq value and standard deviation of triplicate purifications amplified in duplicate.