Promega

Product Application

Corn *(Zea mays)* and Soybean *(Glycine max)* RNA Purification

Isolate high quality, amplifiable RNA from corn and soybean leaves using the ReliaPrep™ RNA Tissue Miniprep System.

This protocol was developed by Promega Applications Scientists and is intended for research use only.

The user is responsible for determining its suitability in the user's application.

For further information, please contact **techserv@promega.com**

Kit: ReliaPrep™ RNA Tissue Miniprep System (Cat. #Z6111)

Analyses: QuantiFluor® and NanoDrop-1000 quantitation, GoTaq® Probe 1-Step RT-qPCR System

Sample Type(s): Fresh corn and soybean leaves

Input: up to 40mg corn leaves and up to 30mg soybean leaves

Materials Required:

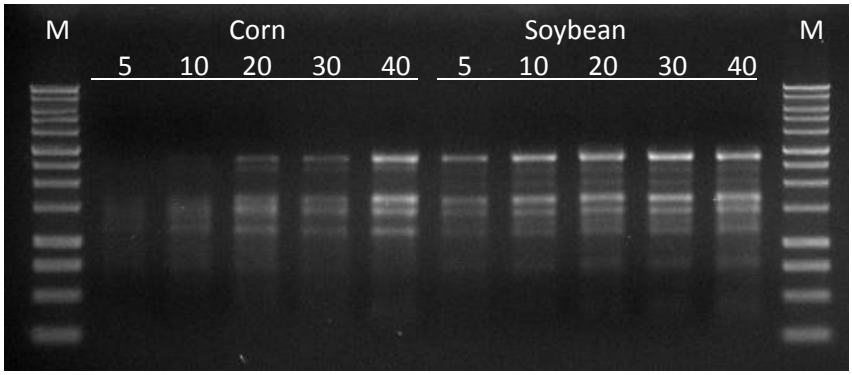
- ReliaPrep™ RNA Tissue Miniprep System (Cat. #Z6111)
- Liquid nitrogen
- Mortar and pestle
- Isopropanol
- 95% ethanol
- Tissue homogenizer (i.e. – Tissue-Tearor™ homogenizer)
- Microcentrifuge

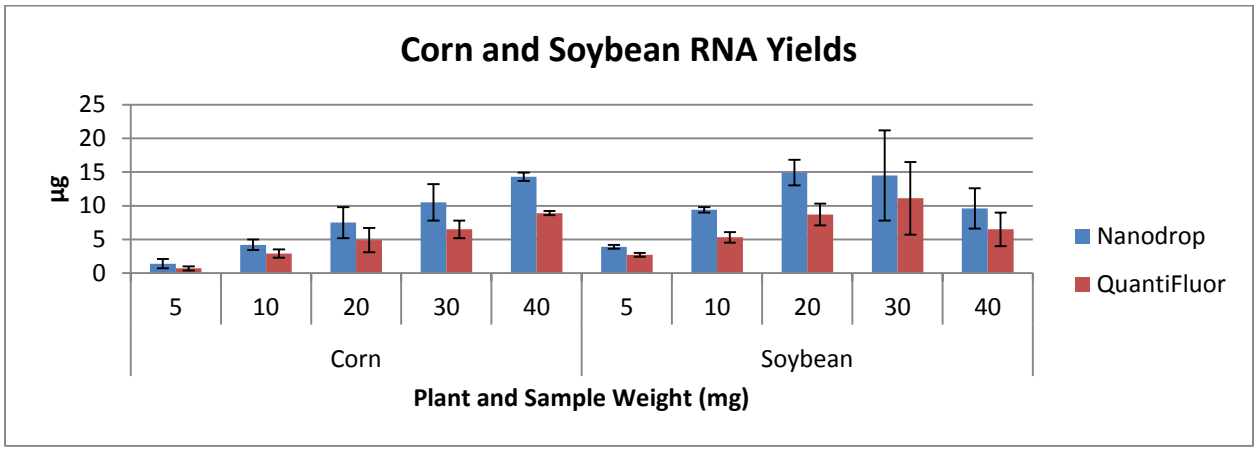
Protocol (for non-fibrous tissue):

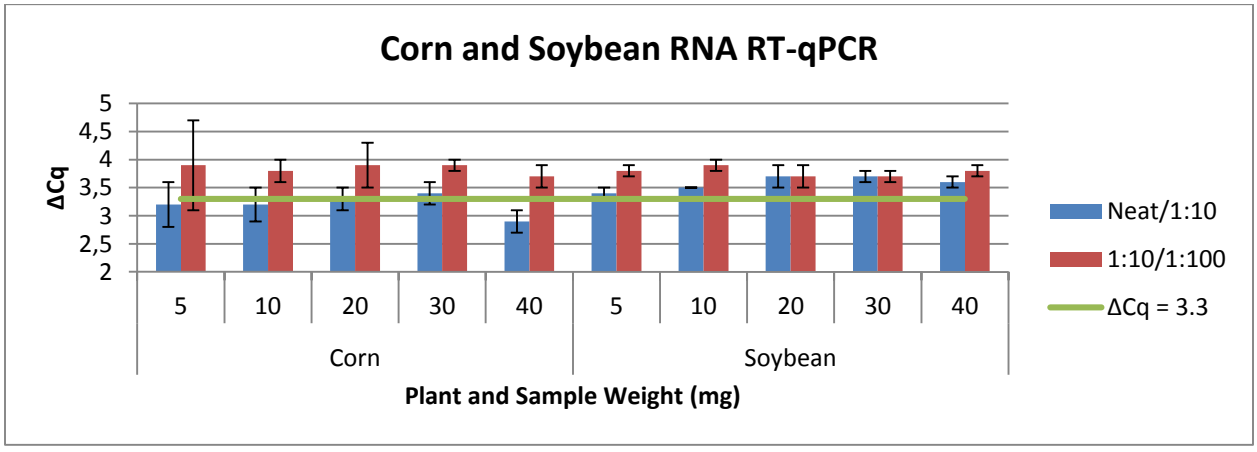
1. Prepare solutions as described in the technical manual (TM394).
2. Grind tissue sample material in liquid nitrogen using a mortar and pestle.
3. Add up to 40mg of ground corn leaves or up to 30mg of ground soybean leaves to a 2ml tube.
4. Add 500µl of LBA + TG Buffer to the tube.
5. Homogenize samples with a small tissue homogenizer for 30-60 seconds.
6. Clear homogenates by centrifugation for 3 minutes at 14,000 x *g*, then transfer to a clean tube.
7. Add 170µl of isopropanol. Mix by vortexing for 5 seconds.

Proceed with the protocol in the technical manual (TM394) to purify the RNA using the ReliaPrep™ minicolumn.

Results:







Top Panel: Gel electrophoresis analysis of RNA purified from fresh corn and soybean leaves. Numbers above the wells correspond to starting tissue weights (mg). M = BenchTop 1kb DNA Ladder.
Middle Panel: Yields of RNA purified from fresh corn and soybean leaves measured using the NanoDrop-1000 and the QuantiFluor® RNA System.
Bottom Panel: RT-qPCR analysis of purified corn and soybean RNA. ΔCq values of samples indicate little to no inhibition of serially-diluted eluates.