

Case study - Cassava Root

RNA Extraction From Cassava Root.

FastPrep® and associated matrices have demonstrated successful lysis and RNA extraction from cassava roots in only 60 seconds.

Introduction

Because plant samples can be very fibrous and contain high levels of polyphenolic compounds, polysaccharides, and RNases, it can be extremely difficult to extract enough usable DNA or RNA for PCR analysis and other downstream applications. The FastDNA™ Kit, FastDNA™ Spin Kit, and FastRNA™ Pro Green Kit make it fast and simple! Effective, efficient sample preparation is critical to successful downstream results.

Overview

Case study: Root

Key words: RNA extraction, roots, fibrous plants

Aim of the study: Optimization of RNA extraction from fibrous roots

Application: RT-qPCR

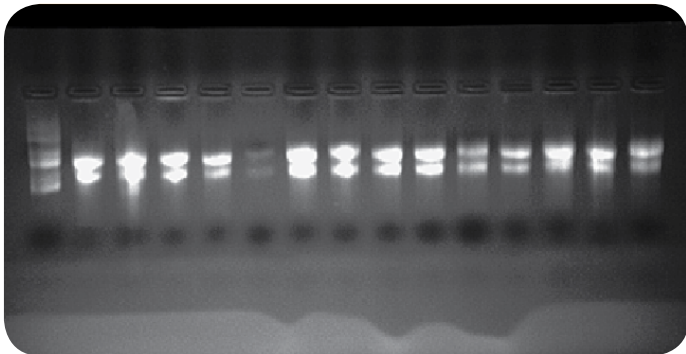
Sample name: Cassava Root

Sample type: Root

Material: FastPrep-24™ instrument, Lysing Matrix A with an additional 1/4 -inch ceramic bead

Protocol and Parameters

1. Add the Cassava root sample to a Lysing Matrix A tube containing an additional 1/4-inch ceramic bead.
2. Add 1 ml of RNApro extraction buffer.
3. Homogenize in the FastPrep-24™ instrument for 60 sec at a speed setting of 6.0.
4. Centrifuge at 14,000 x g for 5–10 minutes to pellet debris.
5. Collect the supernatant and proceed with the RNA extraction protocol.



RNA extraction from Cassava storage roots; samples contain 0.32 µg/µl–110 µg/µl RNA. FastPrep settings: Speed 6.0 for 60 s; Lysing Matrix A with additional ceramic 1/4-inch bead.

Conclusion

- RNA could successfully be extracted from cassava roots with the FastPrep System. Total RNA yields achieved were up to 110 µg of RNA per µl.

Successful sample preparation using the MP Biomedicals FastPrep® product line has been highlighted in thousands of scientific articles. To access articles and other materials, visit www.mpbio.com/FastPrepLibrary.



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