2010

Geno/Grinder®

Tissue
Homogenization
Cell Lysis

APPLICATION NOTE

Quick DNA Extraction from Rice Seed

With kind permission of RiceTec Inc., Alvin, TX

Introduction

DNA extractions can be a very time consuming and tedious process. Finding a quick method in which DNA could be extracted and used for PCR is essential. Described below is a quick "dirty" method that produces a high enough concentration of DNA that can be used for PCR.

Sample Extraction

Samples are prepared using a 96-well 1 mL assay block. Dispense one 5/3222 (4 mm) stainless steel bead into each well using the Grinding Ball Dispenser (SPEX SamplePrep Cat. No. 2100). Next, add one seed to each well. Dispense extraction buffer into each well and securely cap each well. After the samples have been capped, grind them in the SPEX SamplePrep 2000 Geno/Grinder at 500 strokes/minute for two minutes. Centrifuge for 1 minute to bring all liquid to the bottom of the assay block. Incubate the samples in about 122 (25.4 mm) of water at 95°C for 20 minutes then place them on ice for approximately 10 minutes or until samples are cool to the touch. Centrifuge again for 1 minute. Add neutralizing extraction buffer and seal the assay block with sealing film. Centrifuge the samples for 10 minutes at 3000 rpm. Transfer 300 µL of the supernatant to a clean 96-well plate. DNA can be further purified with clean-up kits available on the market.

Yields

The total concentrations yielded from the samples range from 3-7 ng/µL in a final volume of 200 µL with purities of 1.5-1.8.

Conclusion

The method described above is sufficient for PCR and it takes less time than the standard chloroform extraction. Total time ranges from one to two hours.

- APPLICATION NOTE SP016:
  Lysing / Homogenization
- APPARATUS:
  Geno/Grinder®
- APPLICATION:
  DNA Extraction from
  Rice Seeds

SPEX SamplePrep
15 Liberty St
Metuchen, NJ 08840 USA
Tel: 732-623-0465
Fax: 732-906-2492
E-mail: Sampleprep@spexcsp.com
www.spexsampleprep.com

European Headquarters
SPEX CertiPrep Ltd
2 Dalston Gardens
Stanmore, HA7 1BQ, UK
Tel: +44 (0)20 8204 6656
Fax: +44 (0)20 8204 6654
E-mail: sales@spexcertiprep.co.uk
Web: www.spexcertiprep.co.uk

SPEX SamplePrep®