

Equipment, materials, and reagents for DNA extraction and PCR

A. Equipment

- FastPrep FP-120 or -24 instrument (Qbiogene, Inc) or mini-bead beater (BioSpec)
- PCR work station or enclosure
- Vortex (any vendor)
- Thermomixer (i.e: Eppendorf #5350), or water bath, capable of 56°C (any vendor)
- Thermal cycler (i.e: Biometra TRIO, Bio-Rad)
- Microcentrifuge, bench-top, capable of 20,000 × g (14,000 rpm with 6 cm fixed rotor) (any vendor)
- Freezer, non-frost-free, capable of -20° ± 2°C (any vendor)
- Microwave (any vendor)
- Analytical balance, capable of weighing 0.5 mg to 20.5 g (any vendor)
- Dedicated calibrated pipettes (P10, P50, P200, P1000, any vendor)
- Gel electrophoresis unit and power supply (any vendor)
- Gel documentation system (any vendor)

B. Materials and reagents

- Qiagen® DNeasy Plant Mini Kit, #69104 (50 tests) or #69106 (250 tests)
- Platinum Taq Polymerase (Cat# 10966-034, Invitrogen)
- dNTP Mix (deoxynucleotide mix, 10 mM) (Cat# D 7295, Sigma)
- Molecular grade (MG) water (any vendor)
- Primers (see SOP-PID-03.01 for details)
- 1.5-1.7 mL microcentrifuge tubes (pre-sterilized, certified DNase & RNase free, any vendor)
- Thin-wall 0.2 mL PCR tube strips (pre-sterilized, certified DNase & RNase free, any vendor)
- Sterile filter (barrier) pipette tips for corresponding pipets (P10, P50, P200, P1000, any vendor)
- Tube openers (any vendor) *see note below on use*
- Gloves (any vendor)
- Paper mat or towels, absorbent (any vendor)
- Disposable, absorbent bench underpads (any vendor)
- Horizontal orbital shaker (any vendor)
- Ice
- Agarose (i.e.: UltraPure™ cat #15510-027, Invitrogen)
- 10X TAE gel running buffer (any vendor or purchase components)
- 100 base pair DNA ladder (BioVenture M1 or other vendor)
- 10 mg/mL ethidium bromide (any vendor)

Notes:

- Flip-cap microcentrifuge tubes are to be opened using decontaminated tube openers to reduce potential for contamination. Tube openers and reusable tube holders/racks are decontaminated by soaking 30 min to 2 hours in 10% bleach solution, followed by two rinses in distilled water to remove bleach residue.
- All items in this document are only suggestions and should not be considered an endorsement of any vendor.

Citation

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Prepared by: Z. Gloria Abad, Ph.D.

Submitted by:

Approved by:

Kurt Zeller, Ph.D.
Mycology Section Supervisor, Beltsville Lab

Ashlee Barth
Quality Manager, Beltsville Lab

Mark Nakhla, Ph.D.
Laboratory Director, Beltsville Lab