

Combined Equipment and Supplies List for Bean Beetle Microbiome Project

Below are equipment and supplies for a lab class of 24 students, assuming 6 lab groups of 4 students. We assume that institutions have access to all of the listed equipment. The supplies are divided between those that institutions should have and those that we will order for you. If your institution does not have any of the equipment or standard supplies, please contact us.

Equipment

- Dissecting microscopes (at least 1 per group, minimum 6 total)
- Autoclave
- Gel boxes (1 per group, 6 total) – assuming 8 lanes
- Electrophoresis power supplies (1 per two groups, 6 total)
- P20 micropipeters (at least 1 per group, 6 total)
- P100 micropipeters (at least 1 per group, 6 total) (if available, if not a P200 can be used)
- P200 micropipeters (at least 1 per group, 6 total)
- P1000 micropipeters (at least 1 per group, 6 total)
- Racks for micropipeters (1 per group) optional
- Racks for microfuge tubes (1 per group, 6 total)
- Racks for 15mL conical tubes (1 per group, 6 total)
- UV box for visualizing band on gel
- Water bath
- PCR machine
- Microcentrifuge (1 per group, if possible, 6 total)
- Empty tip box to hold PCR tubes (1 per group, 6 total)
- Inoculating loops (1 per group, 6 total)
- Plate spreaders (1 per group, 6 total) (Fisher 08-769-2B)
- Bunsen burner and striker-lighter (1 per group, 6 total)
- Fine tip sharpies to mark tubes (1 per group, 6 total)
- Glass petri dishes with lids for spreader dipping (1 per group, 6 total)
- Glass Erlenmeyer flasks 500mL or 1000mL
- Heat-block, incubator, thermomixer or water-bath that can be set to 56°C
- Vortex

Supplies provide by institution

- Disposable gloves
- Sterile P20 tips (1 box per group, 6 total)
- Sterile P200 tips (1 box per group, 6 total)
- Sterile P1000 tips (1 box per group, 6 total)
- Sterile P100 filtered tips (if available, if not, P200 can be used) (filtered tips preferred to prevent cross contamination during DNA extraction)
- Sterile P200 filtered tips (filtered tips preferred to prevent cross contamination during DNA extraction)

- P1000 sterile filtered tips (filtered tips preferred to prevent cross contamination during DNA extraction)
- 1.5ul sterile microfuge tubes
- 1.5 or 2mL microcentrifuge tubes (nuclease free)
- PCR tubes (1 strip of 8 tubes per group)
- agarose
- Tris
- Disodium EDTA
- Glacial Acetic Acid
- Molecular grade water (1-1.5mL tube with 1.0mL volume per group, 6mL total) – for PCR
- Molecular grade water (nuclease free preferred) – for DNA extraction
- Sterile 0.9% saline (2-1.5mL microfuge tubes per group, 12 tubes total, 20mL total)
- Diluted *E. coli* as positive control
- Autoclave bags for waste
- Sterile water (2-15mL conical tubes per group, 200mL total)
- 70% Ethanol (1-15mL conical tube per group, also needed for spreader dipping dishes, 200ml)
- 10% Bleach (1-15mL conical tube per group, 100mL total)
- 15ml sterile conical tubes (4 per group)
- Sterile plastic petri dishes 100mm for media
- Plastic petri dishes for beetle cultures, 150mm
- Plastic petri dishes for beetle experiment cultures, 60mm
- Plastic petri dishes for isolating beetles, 35mm
- Nutrient agar
- Parafilm
- 96-100% Ethanol
- PBS, pH 7.2 (50mM potassium phosphate, 150mM NaCl)
- 50mL conical tubes for shipping microfuge tubes
- padded envelope for PCR products and stabs

Supplies ordered by institutions for free from New England Biolabs

- DNA ladder (100 BP Quick ladder)
- Mastermix (OneTaq Hot Start Quick-Load 2X Master Mix with Standard Buffer)

Supplies ordered by Bean Beetle Microbiome Project

- PCR Primers (Eurofins) – shipped directly
 - forward primer – 27F (5' – AGA GTT TGA TCC TGG CTC AG)
 - reverse primer – 1492R (5' – GGT TAC CTT GTT ACG ACT T)
- 2mL tubes with agar and barcode labels (4 per group, 24 total)
- Pre-paid shipping box, cooler, and blue ice for beetle samples
- Pre-paid shipping label for PCR products and stabs
- PEA agar powder – shipped directly

- EMB agar powder – shipped directly
- Autoclave pouches for microfuge pestles (Fine Science Tools 2800007, Fisher NC9268683)
- Plastic sterile microfuge pestles (2 per group, 12 total, after first use, re-sterilize in autoclave pouches, 2 each in 6 sterile pouches) (Axygen PES15BSI, Fisher 14-222-358)
- Forceps to handling beetles (2 per group, 12 total, BioQuip Featherweight forceps, wide tip 4750)
- Qiagen DNeasy Blood and Tissue Kit (cat. no. 69504, 50 reactions per kit)
- GelRed
- DNase, RNase free tubes and pestles for DNA extraction