Inclusive List of Instrumentation and Reagents/Materials

Instrumentation

Laboratory 1

Vortex
Microfuge (two if possible)
Heating bath or block (56°C)
Micropipets and tips - p1000, p200 or p100, and p20
Spectrophotometer or Nanodrop if available

Laboratory 2

Microcentrifuge
Thermocycler
Micropipets and tips - p200 or p100, p20 (p10 or p2 if available)

Laboratory 3

Micropipets and tips - p20 (p10 or p2 if available)
UV transilluminator and camera
Agarose gel electrophoresis equipment (E-Gel apparatus 1 or 2)
Power Supply for E-gel electrophoresis
Water bath or Thermocycler (37°C) and appropriate tubes

Optional - Computers with Internet connection for students to examine their DNA sequences after demonstration.

Reagents/Materials

All laboratories

Gloves
Lab Coats
Microfuge tubes (1.5 ml)
Tube racks
Waste receptacle (dry and wet)

Laboratory 1

Colored water for pipetting practice
Sterile Swabs
1.5 ml microfuge tubes (some are provided in the kit below)
2.0 ml collection tubes (some are provided in the kit below)
1 X PBS (phosphate-buffered saline)
Ethanol 96-100%
Genomic DNA extraction kit (Recommended - QIAamp DNA mini kit - Qiagen #51304)
   QIAamp DNA mini kit contains:
   Buffer AL (extra AL is needed to use all 50 column in the kit - Qaigen # 19075)
   Proteinase K
   QIAamp spin columns
   Buffer AW1
   Buffer AW2
   Buffer AE
   (Tubes are provided in the kit as well)

Laboratory 2

50% Glycerol solution for pipetting practice 1ul (enzymes)
EX –TAQ nucleotides and buffers  (Takara # RR001A)
Primers  (Eurofin Genomics or another oligonucleotide manufacturer)
   Forward 5’-CCTTCGTTTTCTTGGTGAATTTTTGGGATGTAGTG
   AAGAGGCGG-3'
   Reverse 5’-CTACTAACGTTTGGTGTTGGA-3’
   PCR tubes (0.5 or 0.2 mL depends on the size of the wells in your thermocycler)

Laboratory 3

2.0% E-Gels (Life Technologies)
   Gel system with 6 2% gels (EtBr) # G6000-02
   Gel system with 6 - 2% gels (SYBR safe) # G6206-02
   18 - 2% gels (EtBr) # G501802
   18 - 2% gels (SYBR safe) # G521802
Restriction Enzyme HaeIII (New England Biolabs # R0108S)
Gel loading dye (New England Biolabs # B7021S)
50bp DNA ladder (New England Biolabs # N0473S)
PTC strips (Fisher Scientific #S85287A)
Control strips (Fisher Scientific #S85286A)