

## **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 - Qiagen # 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'-CTACTAACGTTTGGTTCGGTTGGA-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)