Technic : Agarose Gel

Goals : Check the digestion of a plasmid and, in some cases, an insert, check a PCR, extract a particular gene

Procedure :

1. Prepare 1% agarose in 1X TAE: for 100 mL, weigh 1 g agarose and add to 100 mL 1X TAE.
2. Heat in the microwave in short bursts until agarose is fully dissolved; cool until comfortably warm (~50–60°C).
3. Prepare samples: mix DNA with appropriate loading dye (e.g., Purple 6X or BlueJuice). Typical sample prep used in notebook examples: 20 µL DNA + 4 µL loading dye.
4. Load DNA ladder (1 kb ladder) and samples (typical loads: 10 µL ladder, 20 µL sample depending on concentration and comb wells).
5. Run gel in 1X TAE at an appropriate voltage until separation is achieved. Visualize under UV/blue light.

Reagents and Solutions :

- Agarose
- 1X TAE buffer
- DNA ladder (NEB 1 kb or Invitrogen 1 kb Plus)
- Loading dye (BlueJuice or Purple 6X)

Equipment :

- Microwave
- Gel casting tray and combs
- Electrophoresis chamber & power supply
- UV/blue transilluminator
- Gel documentation system

Estimated time :
~1 hour