Gel Electrophoresis

This protocol allows for separation of nucleic acids based on size

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Materials

- DNA sample of interest
- 1X TAE buffer
- Powdered agarose
- Midori Green Easy (NPPON genetics)
- New England Biolabs 1 kb Plus DNA Ladder
- Loading dye (for Q5 PCR)

Equipment

- Gel tray
- Wel comb
- Power supply and electrodes
- Analytical balance
- Microwave
- Pipettes and pipette tips (0.5-10, 2-20 µL)
- Erlenmeyer flask
- UV visualisation device

Protocol

1. Measure 1 g of agarose (for 2X – 2 g and 3X – 3 g)
2. Mix agarose with 100 mL 1X TAE in an Erlenmeyer.
3. Microwave until agarose is completely dissolved.
4. Cool it down in a water bath and add 10 µL of Midori Green.
5. Pour the mix into a gel tray with the wel comb in place and wait 30 minutes till solidified.
6. If needed add loading dye to each sample.
7. Place tray with gel into the gel box.
8. Fill gel box with 1X TAE til gel is completely covered.
9. Load each sample into a well (make sure to add a ladder to both sides of the gel)
10. Run the gel on 110 or 120 V for 25 minutes.
11. Check the gel with a UV visualisation device. If sufficient proceed to next step, otherwise run a bit longer.