DNA electrophoresis

Separating DNA fragments according to size by using electrophoresis on agarose and fluorescent labeling of ethidium bromide. Used for analyzing PCR reactions.

Agarose gel preparation

1. Weigh 0.7 gr agarose and insert into a dry 50 mL Erlenmeyer.
2. Add 50 mL TAEx1 buffer. Mix gently.
3. Warm the Erlenmeyer (Use a paper as a cork) in the microwave for ~30 sec. Mix quickly and lightly and continue microwave heating for another 20 sec. Monitor the liquid to avoid an explosion.
4. Prepare casting device in the **chemical hood**– make sure it is balanced and sealed.
5. Cool Erlenmeyer under cold water for 10-15 sec.
6. Add 1 drop of ethidium bromide, mix well, and pour into the casting device. **Change gloves and wash your hands well.**
7. Place small/large well comb (for DNA extraction choose big wells).
8. After the gel has solidified (20-30 minutes), move it gently to the running device with the plastic holder. Place the wells in the minus side.
9. Add TAEx1 to the running device up to the marked maximum line, and submerge the agarose gel. Once in liquid, remove comb. Do not forget to reuse the TAEx1 in the end.
10. Add to each sample 5µL purple loading dye.
11. Load samples and DNA marker – add 7 µL DNA Ladder 1K and 30µL of each sample.
12. Run for 40 min 120V.
13. Move the gel to the UV table (wells on the far side). Turn on the device and **look only through the plastic shield**.