**Gel preparation:**

1. For each 1 ml of 1xTAE weigh out 0.01 g of agarose for a 1% w/v gel (0.025 g for a 2.5% w/v gel).
2. Mix well and melt completely by microwave (it should look clear after heating).
3. Cool on bench top or by pouring water under the tap.
4. Add 0.04 uL of Midori Green for each 1 ml of gel and mix well.
5. Pour into gel trey and let cool until it has solidified and turned opaque.

**Gel running:**

1. Remove comb from gel by pulling straight up.
2. Place gel into running chamber and make sure TAE buffer covers the top of the gel, if not add more TAE.
3. Combine 4 uL PCR product and 2 uL of 3x DNA loading dye for all samples.
4. Load samples into wells.
5. Load 3 uL of desired DNA ladder (eg. Perfect Ladder 100-1000).
6. Run the gel. Voltage depends on the gel volume (see table below). Remember that DNA moves from "-" (black wire) to "+" (red wire).

**In ZES laboratory we normally use 2.5% gel.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Trey size** | **Agarose [g]** | **TAE [ml]** | **Midori Green [ul]** | **Voltage [V]** | **Time [min]** |
| **small** | 0.87\* | 35 | 1.4 | 70 | ~40 |
| **medium small** | 1.87\* | 75 | 3 | 90 | ~50 |
| **medium big** | 3.12\* | 125 | 5 | 100 | ~50 |
| **big** | 6\* | 240 | 9.6 | 120-130 | ~50 |

\* amount for 2.5% gel