Agarose gel electrophoresis V.1

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Electrophoresis is the most basic technique for identifying DNA amplified by PCR or restriction enzyme treatment. Agarose gels are used to separate the DNA by molecular weight. Here we describe the technique using a 1.5 % agarose gel.

Yuichiroh Ikagawa 2021. Agarose gel electrophoresis. **protocols.io** https://protocols.io/view/agarose-gel-electrophoresis-bzccp2sw

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Reagents

Agarose S agarose powder (Nippon Gene)
x50 TAE buffer
DNA sample
x6 DNA loading dye (New England Biolabs)

Equipment

Mupid® exU electrophoresis machine (Mupid)

:

1 Weigh out 0.75 g of agarose powder and add it to the triangular flask.

2 Add 49 ml of sterile water to the first flask and shake gently.

3 Add 1 ml x50 TAE buffer to the flask and heat in the microwave.

4 Allow the melted agarose to cool for 5 minutes before pouring it into a template set with a comb.

5 Cover with plastic wrap and leave for 15 minutes until the gel has solidified.

6 Mix 1 ul of loading dye with 5 ul of sample DNA.
If necessary, the sample DNA solution can be diluted and added.

7 Carefully apply 6 ul of the DNA-dye mixture to the wells.

8 Run the electrophoresis 100 volts for 30 minutes.

9 Remove the gel from the electrophoresis bath and stain with ethidium bromide (EtBr) for 20 minutes.

10 Check the stained DNA with a transilluminator.