

Staining your Agarose gel to reveal DNA

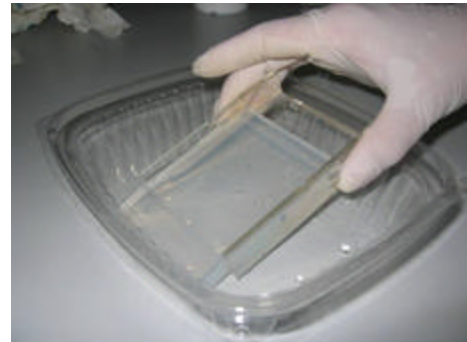


“a world of learning”

Electrophoresis of DNA requires a staining step to make the separated DNA fragments visible. The safest and easiest method is to use methylene blue solution. As methylene blue carries a positive charge, it binds to the negatively charged DNA fragments and stains them blue. We have found two suitable methods for staining agarose gels.

Method One – using dilute Methylene Blue solution

Carefully slide the agarose gel into a small shallow container and pour in dilute methylene blue solution (0.025%) until the gel is submerged. Allow to stand for up to 16 hours so the stain diffuses into the gel and binds with the DNA fragments.



Method Two – using concentrated Methylene Blue solution

Carefully slide the agarose gel into a small shallow container and use a pipette to cover with a few millilitres of concentrated methylene blue solution (0.1%). Add just enough to cover the surface of the gel with the concentrated stain. Allow to stand for 5 minutes, then rinse off the excess stain. Leaving the gel in the container, seal it with cling wrap to prevent any evaporation and allow it to stand for up to 16 hours so the stain diffuses into the gel.



Destaining

Once staining is achieved by either of the methods described above, you can heighten the contrast between the stained DNA fragments and the background gel by destaining. This involves soaking the stained gel in clean water to leach out unbound methylene blue. Change the water occasionally until no further stain can be seen in the rinse water or until the DNA fragments can be plainly seen in the gel.



Note

- Wear gloves and a protective laboratory coat to avoid staining your skin and clothing.
- Methylene blue stain may be reused, so retain excess stain in a labeled bottle.

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