Sep 26, 2023

Preparation of Agarose Gel

DOI
dx.doi.org/10.17504/protocols.io.5qpvo3o7xv4o/v1

NUS iGEM[1]

[1]National University of Singapore

NUS iGEM
National University of Singapore

DOI: https://dx.doi.org/10.17504/protocols.io.5qpvo3o7xv4o/v1

Protocol Citation: NUS iGEM 2023. Preparation of Agarose Gel. **protocols.io**
https://dx.doi.org/10.17504/protocols.io.5qpvo3o7xv4o/v1

Protocol status: Working
We use this protocol and it's working

Created: September 26, 2023

Last Modified: September 28, 2023

Protocol Integer ID: 88416

Keywords: Agarose Gel, Gel, Agarose, Gel Electrophoresis, DNA Isolation, agarose gel 2023 nus, preparation of agarose gel, agarose gel, dna fragments from the common pcr, colony pcr product, dna fragment, colony pcr, pcr product, common pcr, dna, pcr, singapore igem team, nus, preparation

Disclaimer

Abstract

2023 NUS-Singapore iGEM team followed this protocol to prepare a 1% agarose gel. The team used this 1% agarose gel to isolate the DNA fragments from the common PCR and the colony PCR products.

Materials

1. Agarose Powder
2. 1x TAE Buffer (Tris-Acetate-EDTA Buffer)
3. Ultra GelRed Gel Stain

Troubleshooting

Safety warnings

Proper lab PPE must be worn at all times while preparing the agarose gel. Additionally, thermal gloves designed for high-temperature protection must be worn when handling the hot agarose solution after microwaving.

1 For a 1% agarose gel, mix the following in a conical flask:
- 5 g of Agarose powder.
- 50 mL of 1x TAE buffer (Tris-Acetate-EDTA Buffer).

2 Swirl the agarose solution to mix it well.

3 Heat the agarose solution in a microwave until it boils.

4 Take out the conical flask from the microwave and swirl the conical flask until the agarose solution is clear and without undissolved agarose powder or lumps.

Safety information

Wear thermal gloves when handling the hot conical flask from the microwave to prevent burns.

5 Add 5 µL of Ultra GelRed gel stain into the agarose solution and swirl the conical flask until the colour becomes uniform.

6 Secure a gel tray tightly onto a gel caster and place an 8-well comb or 15-well comb into the tray.

7 Pour the agarose solution into the tray, ensuring that there are no bubbles.

8 Cool down the agarose solution for at least 00:30:00 to get a solidified agarose gel. 30m