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## Preparation of Agarose Gel

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NUS iGEM<sup>1</sup>

<sup>1</sup>National University of Singapore



**NUS iGEM**

National University of Singapore

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We use this protocol and it's working

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## 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  $\mu$ L 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.

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